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A STUDY ON RURAL HEALTH PROFESSIONALS IN ALBERTA

BY

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A THESIS

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DATE: August 21, 1985

ABSTRACT

Comprehensive health care in rural Alberta requires, in part, that an adequate number of competent health professionals located in rural communities. There has been limited research which comprehensively investigated both the attraction and retention of rural health professionals in Alberta and the adequacy of professional education and continuing education for such individuals. This study was undertaken in order to obtain further information on these areas of interest. More specifically, the research was designed to (1) identify factors which influence the attraction and retention decisions of health practitioners working in rural areas, and (2) assess the perceived adequacy of health education and upgrading for rural health personnel.

Various health professionals in rural Alberta were surveyed using a set of questionnaires developed for this study. A total of 607 usable questionnaires were returned, representing an adjusted overall response rate of 70.7 per cent. Based on the descriptive analyses of survey responses, frequency distributions were obtained for (1) respondents' background characteristics; (2) the perceived adequacy of professional education and upgrading for rural health professionals; (3) the relative importance of selected location decision variables; (4) potential sources of satisfaction and dissatisfaction derived from working in rural communities; and (5) factors which could potentially improve rural working conditions.

The major study findings included the following:

1. Most respondents in each health group, as well as most spouses, had resided in a rural community for the major portion of years (6 years or more) between the ages of 7 and 18.

2. In general, most health professionals reported that they had not been trained in or exposed to management skills, teaching skills, assets and liabilities of a small hospital, working with other health care disciplines, and using a wide range of community health services.

3. Participation in continuing education was most significantly limited by distance and travel time and, as expected, a high preference was expressed for presenting continuing education at local levels. In contrast, in spite of distance and travel time limitations, a high preference was also expressed for one or two day urban workshops.

4. In general, location decision variables which were influential in attracting individuals to rural areas could be categorized as: background characteristics including influence of spouse and influence of 'place of rearing'; professional considerations such as a good community hospital, and; community characteristics such as the idea of small community living.

5. Respondents' overall sources of satisfaction were represented best by variables such as the quality of small, community living and the opportunity to work in a small, cohesive environment. Overall, the most significant source of dissatisfaction in rural communities was limited opportunities to attend continuing education programs.

6. Factors which could potentially improve rural working conditions were represented best by greater opportunities for professional growth and for participation in continuing education.

Recommendations were made regarding use of the results, findings, and conclusions of the study by (1) educational institutions, (2) government agencies, and (3) rural communities in order to facilitate the development of effective health planning strategies for rural areas of Alberta. Recommendations were also made for future research which would provide additional information necessary for effective planning in rural Alberta.

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TABLE OF CONTENTS

Chapter Page

ABSTRACT iv
ACKNOWLEDGEMENTS vi
TABLE OF CONTENTS vii
LIST OF TABLES xiii
LIST OF FIGURES xv

I. INTRODUCTION 1

- 1.1 Statement of the Problem 1
- 1.2 Objectives of the Study 4
- 1.3 Significance of the Study 6
- 1.4 Background of the Study 7
- 1.5 Brief Description of the Study 9
- 1.6 Limitations of the Study 10
- 1.7 Definitions 11
- 1.8 Organization of the Thesis 12

II. SELECTED LITERATURE REVIEW 13

- 2.1 Historical Perspective of the Geographic Distribution of Health Professionals 13
  - 2.1.1 Introduction 13
  - 2.1.2 Issues of Accessibility 14
  - 2.1.3 The United States Scene 15
  - 2.1.4 The Canadian Scene 16
  - 2.1.5 Need for Intervention 19
- 2.2 Identification of Factors that Influence the Location Decisions of Rural Health Professionals 20
  - 2.2.1 Nature of Research 20
  - 2.2.2 Background Characteristics 24
  - 2.2.3 Professional Considerations 28

TABLE OF CONTENTS

Chapter Page

2.2.4 Community Characteristics 31

2.3 The Geographic Distribution and Professional Education of Rural Health Personnel 32

2.3.1 Introduction 32

2.3.2 Conceptual Framework 32

2.3.3 Professional Education and the Attraction of Competent Health Professionals to Rural Areas ... 34

2.3.4 Continuing Education and the Retention of Qualified Rural Health Professionals 37

2.3.5 Conclusion 38

2.4 Role of Health Education in Influencing the Distribution and Competence of Rural Health Professionals 38

2.4.1 Health Care Disparities in Rural and Urban Settings 38

2.4.2 Admission Policies 40

2.4.3 Curriculum Design 40

2.5 Assessment of the Educational Preparation of Rural Health Professionals 42

2.5.1 Nature of Research 42

2.5.2 Adequacy of the Curriculum Within the Educational Setting 43

2.5.3 Effectiveness of the Rural Training Setting 45

2.6 Assessment of Continuing Education for Rural Health Professionals 48

2.6.1 Nature of Research 48

2.6.2 Barriers to Participation 49

2.6.3 Identification of Specific Needs 51

2.6.4 Delivery Methods 52

TABLE OF CONTENTS

Chapter Page

2.7 Literature Related Specifically to Alberta 54

2.7.1 Introduction 54

2.7.2 Geographic Distribution of Health Professionals 55

2.7.3 Attraction and Retention of Rural Health Professionals 58

2.7.4 Professional Training and Upgrading for Rural Health Professionals 60

2.8 Summary 63

2.8.1 Overview 63

2.8.2 Findings 64

2.8.3 Conclusions 65

III. METHODOLOGY 67

3.1 Research Strategy 67

3.1.1 Survey Research Approach 68

3.1.2 Target and Study Population 71

3.1.3 Sampling Design 73

3.1.4 Sampling Plan 75

3.2 Questionnaire Development 77

3.2.1 Identification of Content 78

3.2.2 Questionnaire Format 79

3.2.3 Selection of Questionnaire Items 80

3.2.4 Questionnaire Pretest 81

3.3 Questionnaire Distribution and Data Collection 84

3.3.1 Questionnaire Distribution 84

3.3.2 Follow-up Procedure 85

TABLE OF CONTENTS

Chapter Page

3.4 Data Analyses 85

3.4.1 Descriptive Analyses 85

3.4.2 Interview of Selected Rural Health Professionals 86

3.5 Summary 87

IV. ANALYSIS AND RESULTS 88

4.1 Survey Response Rate 88

4.2 Respondents' Background Characteristics 91

4.2.1 Socio-demographic Characteristics 91

4.2.2 Professional Training 100

4.2.3 Current Practice Patterns 109

4.2.4 Future Career Plans 116

4.3 Perceived Adequacy of Professional Training 119

4.3.1 Professional Training Programs 119

4.3.2 Personal Training in and/or Exposure to Selected Professional/Technical Skills 125

4.3.3 Perceived Importance of Training in and/or Exposure to Selected Professional/ Technical Skills 131

4.3.4 Comparison of the Perceived Importance of and Respondents' Personal Training in Selected Professional/Technical Skills 136

4.4 Continuing Education for Rural Health Professionals.... 140

4.4.1 Importance of and Participation in Continuing Education 140

4.4.2 Access to Continuing Education 142

4.4.3 Barriers to Participation in Continuing Education 145

TABLE OF CONTENTS

Chapter Page

4.4.4 Personal Preferences for Methods of Presenting Continuing Education 149

4.5 Relative Importance of Location Decision Factors 152

4.6 Sources of Satisfaction in Rural Communities 160

4.7 Sources of Dissatisfaction in Rural Communities 167

4.8 Improving Working Conditions in Small Communities 172

4.9 General Comments 176

4.9.1 Adequacy of Professional Training and Continuing Education for Rural Health Professionals 176

4.9.2 Attracting and Retaining Alberta Rural Health Professionals 177

4.10 Summary 178

V. SUMMARY AND RECOMMENDATIONS 179

5.1 Summary of the Study 179

5.2 Major Findings 182

5.3 Conclusions 185

5.4 Recommendations 187

REFERENCES 190

APPENDIX A: Physician Draft Questionnaire 198

APPENDIX B: Correspondence to Pretest Respondents 213

APPENDIX C: Revised Questionnaire Used in Survey 216

C.1: Prototypical Physician Questionnaire 217

C.2: Modification of the Prototypical Questionnaire for Other Health Groups 231

APPENDIX D: Correspondence Used in Survey 233

D.1: Cover Letter Sent to all Potential Respondents .. 234

TABLE OF CONTENTS

Chapter Page

D.2: Support Letters Sent to Respective Respondents .. 235

D.3: Cover Page Attached to Front of Each Questionnaire 245

D.4: Cover Letter Sent to all Non-Respondents 246

APPENDIX E: Edited Comments 247

E.1: Comments from Physician Mail Questionnaire 248

E.2: Comments from Dentistry Mail Questionnaire 252

E.3: Comments from Nursing Mail Questionnaire 254

E.4: Comments from Rehabilitation Medicine Mail Questionnaire 256

E.5: Comments from Hygienists/Technologists Mail Questionnaire 261

E.6: Comments from Dietician Mail Questionnaire 266

LIST OF TABLES

Table		Page
I	Selected Physician Location Hypotheses and Summary Evaluations	23
II	Factors that Influence the Location Decisions of Rural Health Professionals	33
III	Physician's Ratings of Usefulness of the Rural Training Experience	47
IV	Study Population	74
V	Sample Size Allocation	76
VI	Stratification of Study Population for Development of Questionnaires	82
VII	Sample Response Rate by Health Care Group	89
VIII	Respondents' Characteristics by Health Care Group	92
IX	Respondents' Place of Rearing by Health Care Group	98
X	Spouses' Place of Rearing by Health Care Group	99
XI	Physicians' Professional Status	101
XII	Registered Nurses' Professional Status	102
XIII	Rehabilitation Medicine Therapists' Professional Status	104
XIV	Hygienists/Technologists' Professional Status	105
XV	Dieticians' Professional Status	106
XVI	Respondents' Professional Training by Health Care Group	108
XVII	Respondents' Current Practice Patterns by Health Care Group	110
XVIII	Procedures Performed by Physicians	112
XIX	Physician On-Call Hours Per Week	114
XX	Respondents' Future Career Plans by Health Care Group	117

LIST OF TABLES

Table		Page
XXI	Respondents' Perceptions of Professional Training Programs by Health Care Group	120
XXII	Respondents' Training in and/or Exposure to Professional/Technical Skills by Health Care Group	126
XXIII	Physicians' Training in and/or Exposure to Professional/Technical Skills by Response	130
XXIV	Respondents' Perceived Importance of Professional/ Technical Skills by Health Care Group	132
XXV	Physicians' Perceived Importance of Professional/ Technical Skills by Response	135
XXVI	Comparison of Respondents' Perceived Importance of and Training in/Exposure to Professional/Technical Skills by Health Care Group	137
XXVII	Physicians' Perceived Important of and Training in/ Exposure to Professional/Technical Skills	139
XXVIII	Importance of and Participation in Continuing Education by Health Care Group	141
XXIX	Access to Continuing Education by Health Care Group	143
XXX	Barriers to Continuing Education by Health Care Group ...	146
XXXI	Mean Response Score by Health Care Group for Methods of Presenting Continuing Education	151
XXXII	Importance of Location Decision Factors by Health Care Group	153
XXXIII	Importance of Location Decision Factors for Physicians and Dentists	159
XXXIV	Potential Sources of Satisfaction by Health Care Group ..	162
XXXV	Potential Sources of Satisfaction by Physicians and Dentists	166
XXXVI	Potential Sources of Dissatisfaction by Health Care Group	168
XXXVII	Potential Improvement of Working Conditions by Health Care Group	173

LIST OF FIGURES

Figure Page

1. Association Between the Geographic Distribution and Professional Education of Rural Health Personnel 35

2. Research Strategy 69

CHAPTER I

INTRODUCTION

1.1 Statement of the Problem

With the implementation of the Canadian Medical Care Act in 1968 comprehensive and universal health care services have come to be considered as a right, and not a privilege, for Canadian citizens. One condition for the provision of health care services is that there must be reasonable access to insured services for each resident in Canada (Department of National Health and Welfare, 1982). An appropriate distribution of competent and qualified health care professionals is a significant element in assuring reasonable access to health care (Bryant,1981). This element requires that arrangements for planning and developing health care resources and services sensitive to the population's insured health care needs take into account two factors: the geographical distribution of health care personnel; and, the ability of such personnel to provide quality service regardless of their location of practice.

Much of the research into the distribution, educational preparation and upgrading of health professionals has focussed on the physician. However, in view of the increasingly multidisciplinary nature of health services, it is important that other health care disciplines be included in any investigation of the distribution and education of health care personnel. A review of pertinent literature would suggest that the patterns of geographical distribution and the educational concerns that prevail for physicians also exist for other health care disciplines (The Association of Chartered Physiotherapists of Alberta; the Alberta Physiotherapy Association, 1982; Beck & Gernert, 1971; Grad, 1975; Pakieser, 1978). In regards to physician distribution, the predominant finding of research is that there is a maldistribution of physicians across geographic regions with physicians tending to concentrate more in urban and suburban areas than is warranted by the population concentration in these areas (Haug, Lavin, & Breslau, 1980; Ontario Economic Council, 1976; Fein, 1954, 1972). The concern about the maldistribution of health care professionals, and physicians in particular, has been based on the premise that it represents a major area of misallocation of health resources which threatens consumer accessibility to health services (Steele & Rimlinger, 1965). In Alberta, the general preference of many health care professionals for an urban practice has led to concern regarding the availability, accessibility, and adequacy of rural and Northern health care services (Lindeman, 1980; Warner, 1980).

With respect to the training and upgrading of various health care disciplines, there is general agreement that the work situations encountered in rural settings necessitate special consideration. Joseph (1976) has stated that "the difficulties entailed in the training ... of appropriate health care personnel - appropriate in the sense of orientation and competence relevant to the needs of a particular area - are especially acute for rural areas" (p.160). Greenhill and Singh (1964) also contended that attention should be directed towards the training of doctors who would be qualified to cope with the variety of medical situations faced by rural physicians. The issue of professional upgrading or continuing education for health care professionals has also been viewed as one which requires special attention. For rural health care disciplines continuing education has been noted to pose a unique problem with many factors, such as the lack of coverage for those attending courses, making it difficult for rural health care personnel to participate (Owens, Steiner, Hilfilker, & Eversole, 1979; Grad, 1975; Shockley, 1981). Parker & Sorensen (1978), as well as Rosenthal & Millar (1982), have even postulated that continuing education might be interrelated to the point of influencing manpower distribution. In a study of physicians, Parker & Sorensen (1978) proposed that more adequate programs of continuing education could do an enormous amount to lessen the ebb of physicians from rural areas and increase the flow to rural practice locations.

Comprehensive health care in rural Alberta should be a concern not only because of consumer accessibility to quality care but also because of the impact that comprehensive care may have on the viability and enrichment of rural areas. A study in 1980, by Mort Warner Health Care Associates on health care needs in northern Alberta, indicated that much of Alberta's wealth came from the northern region and that northern residents hoped to see some return in the form of improved health services. As well, adequate health care facilities provide employment opportunities for community members and may attract new members to the community. Studies have indicated that people may hesitate to move to a location that lacks adequate health care; therefore, adequate health care may be an essential part of rural development strategies (Lindeman, 1980).

If certain areas of the province are deemed to be receiving inadequate health care as a result of the maldistribution and/or inadequate educational preparation of health professionals, then appropriate health care practitioner attraction/retention programs and training and continuing education programs are essential for improving health services and/or maintaining health services where such services are considered to be presently adequate. The development of successful and effective health planning strategies that would encourage health care practitioners to locate, and remain, in rural areas requires the identification and understanding of what determines their choice of location. "The underlying assumption of research (into the factors that influence a health care professional's choice of location) is that by understanding the attractive factors or the personal predisposition of (such professionals), policies can be instituted to modify or equalize the availability of medical care" (Lave, Lave, & Leinhardt, 1982, p.318). The development of successful and effective educational strategies to ensure that rural health care personnel are adequately trained to provide comprehensive care in rural settings requires the identification of the educational needs of such professional groups. This study will endeavor to investigate the factors that influence rural health care professionals' choices of location in Alberta, and the adequacy of educational preparation and upgrading for rural health activities.

1.2 Objectives of the Study

The prime objective of this study is to survey rural health professionals to obtain information necessary for effective health planning. The information obtained would facilitate health planning by identifying 1) the factors which influence the attraction and retention decisions of health care practitioners working in rural areas, and 2) the adequacy of health education and upgrading for health care personnel who work in rural settings. More specifically, the survey will identify:

a) the background characteristics of selected rural health professinals (age, birthplace, professional training, career history);

b) the current practice patterns of selected rural health professionals;

c) the future career plans of selected rural health professionals;

d) the adequacy of professional training in terms of requirements of work in rural areas, as perceived by those individuals surveyed;

e) the opinions and attitudes of those individuals surveyed regarding the status of continuing education in rural areas, and;

f) the opinions and attitudes of those individuals surveyed regarding:

    (1) factors which influence health professionals to locate in rural communities;

    (2) factors which retain health professionals in rural areas;

    (3) factors which deter health professionals from locating in rural areas;

(4) factors which are a source of dissatisfaction for health professionals in rural communities, and;

(5) factors which would improve the work environment of health professionals in rural areas.

1.3 Significance of the Study

The results contained in this study could be used to evaluate and possibly alter present recruitment policies of those educational institutions which train individuals in various health care disciplines. Much of the literature on manpower distribution has stressed the need for the health education system to become involved in supporting practitioner training for rural areas. For example, the most prominent strategy suggested has been preferential admission of students with rural backgrounds as it is perceived that these students would be more likely to practice in rural areas than students with urban backgrounds (Fein, 1972; Fulton, Sjiek, Evans, & Mayes, 1980; Cooper, Heald, Samuels, & Coleman, 1975; Yett & Sloan, 1974).

The survey results could also be used to improve the educational training of health care practitioners to better prepare them for work in rural areas. The results could help to identify the perceived adequacy of the curriculum of educational institutions, rural preceptorships, and continuing education and upgrading.

Information collected from the survey could also influence governmental policies regarding health planning. The identification of those factors which influence the attraction and retention of health professionals could potentially provide a basis for many strategies designed to influence the geographic distribution of health care disciplines. As well, the identification of the educational needs of rural health workers could influence future educational strategies implemented by the government.

All of the aforementioned features of this study could facilitate consumer accessibility to an appropriate distribution of competent and qualified health care professionals. Attempts to ensure adequate access to health care "must be maintained if universal health insurance is to be more than a theoretic principle" (Spitzer, Hackett, & Goldsmith, 1975, p.468).

1.4 Background to the Study

A Conference on Rural Health Care was held in Edmonton, Alberta from November 23-25, 1981. The Conference was jointly sponsored by the Alberta Chapter of the College of Family Physicians of Canada, the Alberta Medical Association, the College of Physicians and Surgeons of Alberta, and the Universities of Calgary and Alberta.

The goals which were set forth by the Conference, and which pertain specifically to this study, were:

(1) to focus general awareness about the needs for rural health care in Alberta, with particular reference to medical manpower;

(2) to assemble the best possible information relating to rural health care and it's problems, and;

(3) to provide an opportunity for medical educators to have a further understanding of what needs to be done to prepare physicians for rural practice.

A concluding remark contained in the Summary Report of the Conference (College of Family Physicians of Canada, Alberta Chapter, 1982) called for all interested parties to put into effect measures which would help to improve the quality of preparation, as well as the circumstances of practice for those rendering care in small communities, to the ultimate end of significantly upgrading the provision of health care in those settings.

Subsequent to the Conference on Rural Health Care, and in response to issues raised at the Conference, the Working Party on Education of the Conference on Rural Health Care was formed on May 2, 1983. The terms of reference of the Working Party are to gather information about the needs and make recommendations in the area of education as it applies to rural health. In line with the terms of reference, the Working Party identified three specific areas of interest, namely:

(1) recruitment of individuals into training programs;

(2) adequate preparation of health care manpower for a career in rural health care, and;

(3) the continuing education and upgrading of health care personnel.

One activity which the Working Party had chosen to undertake in order to gather information on the needs of rural health care in Alberta, and which would address the aforementioned areas of interest, was to contact individuals who are practicing their various professions in rural areas.

This particular study is being undertaken to obtain information from various health care professionals in rural Alberta as required by the Working Party. The specific objectives of this study and the information that will be gathered have been discussed in Objectives of the Study, 1.2. This study shall be carried out in conjunction with a study by the Working Party which will gather information about education needs as they apply to rural health by surveying health education institutions, rural hospitals, and health units.

1.5 Brief Description of the Study

This study utilized a mail survey method in order to obtain information from health professionals in rural Alberta. The target population included the following disciplines: physicians, nursing personnel, dentists, dental hygienists, rehabilitation therapists, laboratory technologists, medical radiation technologists, combined laboratory and x-ray technicians, dietitians, nutritionists, and dietary technicians. Health professionals surveyed were those employed in rural areas of Alberta at the time that this study was undertaken.

For this study, the research strategy was comprised of 1) a comprehensive review of selected literature, 2) adoption of a survey research method, the target and study populations, and sampling plan, 3) development of the questionnaires including a pre-test, 4) distribution of the questionnaires with follow-up procedures utilized, 5) data collection, and 6) analysis and interpretation of the data.

1.6 Limitations of the Study

This study is being carried out at the request of the Working Party on Education of the Conference on Rural Health Care and, therefore, is subject to the terms of reference and goals of the Working Party. More specifically, the study has the following limitations:

(1) Areas of interest are restricted to the factors influencing the attraction and retention of health professionals in rural areas, and the adequacy of health education and upgrading for health personnel in rural areas. The study is not intended to address the above areas of interest for urban health professionals, nor is it intended to investigate the actual distribution of health manpower, or to recommend specific distribution and educational strategies.

(2) The study population surveyed and interviewed is restricted to those health care disciplines as discussed in Brief Description of the Study, 1.5. Generalizations of findings beyond these disciplines requires caution.

(3) Dentists and dental hygienists have been included in the study population even though their services are not insured under the Canada Medical Care Act.

Caution must also be used in generalizing the findings of this study to areas outside the province of Alberta as unique regional and local geographic characteristics may influence research results (Wending, Werner & Budde, 1981, p. 133).

The survey research method utilized is subject to the limitations associated with:

(1) the mail questionnaire survey method;

(2) uncertainty due to sampling error, and;

(3) measurement error.

The study population surveyed was comprised of individuals who represented an extensive range of practical experience subsequent to completion of their professional training. The resulting 'after the fact' attitudes and opinions of these individuals may not be representative of the attitudes and opinions of students or new graduates. However, a pilot study by Diseker and Chappell (1976), which looked at the relative importance of variables in the determination of practice location, has suggested that both practitioners and residents attach the same relative importance to variables influencing practice location regardless of time in practice and/or experience.

1.7 Definitions

For the purpose of this study the following definition shall be used.

Rural - all Alberta outside the major centres of Edmonton (including St. Albert and Sherwood Park), Calgary, Lethbridge, Medicine Hat, Red Deer, Grande Prairie, and Fort McMurray.[1]

---

[1] Definition adopted by the Conference on Rural Health Care, Edmonton, Alberta, Summary Report, 1981; and the Working Party on Education of the Conference on Rural Health Care, Edmonton, Alberta, 1983.

1.8 Organization of the Thesis

This report is comprised of five main sections. The preceding Chapter provided the introductory material. Chapter II presents a review of selected, pertinent literature. In Chapter III the research design and methodology used in the study are described. Data analysis and results of the study are discussed in Chapter IV and the final Chapter contains a summary of the study, conclusions and recommendations. The Appendices includes pertinent correspondence, a sample of research instruments used in the study, and edited comments.

CHAPTER II

SELECTED LITERATURE REVIEW

The purposes of this literature review are to establish the theoretical underpinnings of this research project and to provide a basis for the selection of pertinent variables to be included in the research instrument.

In this chapter, the author attempts to provide an overview of the geographic maldistribution of health professionals from an historical perspective and to review studies which have identified factors that influence the location decisions of rural health professionals.

This chapter also discusses the association between the geographic distribution of health personnel and the education of such individuals. The impact of professional education on the distribution and competence of health disciplines in rural areas is reviewed and studies which assess the educational preparation and continuing education of rural health personnel are examined.

Finally this chapter presents an overview of the geographic distribution and education of health professionals in rural Alberta.

2.1 Historical Perspective of the Geographic Maldistribution of Health Care Professionals

2.1.1 Introduction

Literature on the geographic maldistribution of health professionals indicates that it has been the subject of an increasing amount of attention throughout the twentieth century, particularly in relation to physician maldistribution. Historical documentation is somewhat limited, particularly for the Canadian scene, but information that is available suggests that the extensive period over which the geographic maldistribution of health professionals has been investigated has not lessened its import and it continues to be one of the major health policy issues of today.

2.1.2 Issues of Accessibility

As previously stated (see Section 1.1) the persistent concern with the geographic maldistribution of health professionals emanates from the conviction that this maldistribution threatens consumer accessibility to health services (Holden, 1979, p.493). A recurring concern of health planners and society at large has been access to basic health care (Reilly, et al, 1980, p.120). The fact that "rural areas receive the short end when (health professionals) distribute themselves" (Madison, 1980, p.852) has focused attention on the relative sparsity of health professionals in rural areas. In his study on physicians in non-metropolitan communities, Bible noted that a decrease in the number of physicians and allied health professionals in rural areas had become a matter of concern to the general public and that the maldistribution of health care personnel in certain areas had deprived some rural communities of immediate access to health care (1970, p.11).

Even the introduction of insured health services in Canada in 1968 did not guarantee the equitable distribution of such services. After reviewing the effects of statutory health insurance on access to health care Bryant concluded:

> National health insurance is not a panacea for the equitable distribution of health care. It may make health care available to economically disadvantaged people, but it will not solve other problems of access unless it is accompanied by a process of rational management to examine critically the geographic distribution of physicians and other allied health personnel (1981, p.447).

2.1.3 The United States Scene

The historical documentation of geographic maldistribution of health professionals has been primarily related to the physician. Madison and Combs (1981, p.267) and Madison (1980, p.852) have documented that the maldistribution of physicians favoring urban over rural areas had been recognized as a problem in the United States since the early 1920's. A 1925 article in the Journal of the American Medical Association, which reviewed the evidence then available, concluded that a national problem existed and that it could become more serious. In the succeeding 15 years the supply of physicians increased at a rate exceeding that of the population in metropolitan and semirural areas, but in rural counties the net supply of physicians declined by 19.3% while the population was growing by 10%. World War II worsened the situation and between 1950 and 1959 isolated rural communities lost doctors 6 times faster than they lost population.

Although there was a general trend towards urbanization of populations in the late 1960's, physicians were concentrating in larger communities faster than the overall population, with an increasing number of areas, particularly rural areas, without any physicians whatsoever (Navarro, 1974, p.723). When tracing the career paths of young physicians from 1968 to 1975, Langwell noted a continuation of this trend away from rural practice locations (1980, p.897).

In the United States the 1970's was a decade of intense government involvement in rural health. There was a wave of activity as many rural communities lost their capacity to deliver health services and programs were developed to address the problem of the geographic maldistribution of health services. These programs, at this time, were intended to affect the distribution of physicians as well as other allied health personnel. They included: manpower training programs; Health Underserviced Rural Area programs; direct health care delivery programs such as the National Health Service Corps; and, outreach and educational programs such as the Area Health Education Centres.

In spite of the proliferation of the aforementioned programs maldistribution problems appear to persist. Manpower statistics from 1976 - 1978 were reviewed by Fruen and Cantwell and indicated that the supply of active nonfederal physicians relative to the population had grown at the slowest rate in the least populated rural communities. They postulated that if this trend continued many such communities would still have relative shortages of physicians (1982, p.49). Fruen and Cantwell further noted that in 1980 at least one in seven Americans lived in areas having critical shortages of physicians, according to federal standards (1982, p.44).

2.1.4 The Canadian Scene

Historical information on health professional maldistribution in Canada is much more limited; however, studies suggest that the trends being seen in the United States were also being felt in Canada.

The Department of National Health and Welfare noted a significant concentration of physicians in urban areas as early as 1947, with 70.8% of the physicians in Canada practicing in urban centres with a population of 10,000 or more (1955, p.76). The most noteworthy publication which provides some insight into the geographic maldistribution of physicians in Canada during the period of the early 1950's to the early 1960's is the medical manpower report written by Judek for the Royal Commission on Health Services (Judek, 1964, Chapter I, Chapter IV). Judek documented that, as of 1951, the proportion of physicians in urban centres of 10,000 or more was 73.2% as a whole and in 1962 it increased to 85.8%. In contrast, only 48.2% of the total population in 1951 was located within these centres and 58.7% in 1962. Thus, the process of urbanization of physicians between these two years was somewhat lower (17.2%) than that of the population generally (21.8%). Judek further noted that, as of June, 1961, 69.4% of active civilian physicians were located within metropolitan areas, whereas only 47.2% of the total population of Canada was so located. Consequently, while the metropolitan physician/population ratio was 1:581, it was only 1:1,474 for the population outside the metropolitan areas (Judek, 1962, p.12). Judek went on to state:

> It is becoming increasingly more difficult to attract physicians to rural and sparsely populated areas. It has been argued that the maldistribution of medical manpower between urban centres and rural areas is perhaps the major problem facing organized medicine in Canada today (1964, p.116).

A report by the Ontario Economic Council (OEC) in 1976 reflects the continuing concern about the geographic maldistribution of health services in Canada. The report, concerned primarily with physicians, stated that "in a predominantly tax-financed system, the (geographic) maldistribution of physicians clearly is intolerable to those who feel they are 'underdoctered', particularly when they see 'excesses' elsewhere" (OEC, 1976, p.8). The OEC report cited a number of programs that had been implemented in an attempt to alleviate or reduce the problem of geographic maldistribution of physicians. These programs included: forgivable loans to students who, following graduation, serve for a certain period of time in a designated area; perferences for the admission of rural students to medical schools; and, guaranteed income, with or without subsidized capital costs, operating expenses, and fringe benefits (OEC, 1976, p.8).

In a discussion of health professional distribution by Soderstrom (1978, Chapter 3) he reinforced the fact that the concern about the geographic distribution of physicians had increased. He also acknowledged that this problem was not unique to physicians but also encompassed other health care professionals (Soderstrom, 1978, p.117). A discussion paper on strategies for attracting and retaining physicians in northern and rural communities prepared by Lindeman further supported a continuing national concern about the geographic maldistribution of health care services, particularly those of physicians. Responses that she received from provincial Departments of Health indicated that regional disparities of physician distribution were a concern in most Canadian provinces (Lindeman, 1980, p.A18).

The interest in the geographic distribution of health services in Canada persists today as the new Canada Health Act specifically cites geographic distribution of health services as a process or arrangement with which the federal government will be concerned (Department of National Health and Welfare, 1982, p.4).

2.1.5 Need for Intervention

As Subsections 2.1.3 and 2.1.4 have indicated, health professional maldistribution remains a subject of nationwide interest, particularly in regard to the relative deficiency of such professionals in rural areas. Although various strategies have been implemented on a local and/or federal level in order to influence the distribution of health personnel, the problem of maldistribution persists in varying degrees and requires persistent attention.

If equity and access of health services are to be achieved the distribution of health disciplines and health services must change. Such change will not occur naturally and, therefore, intervention is required (Fein, 1972, p.181). Judek, supported by Navarro (1974, p.736), Richardson (1972, p.6), and Petersdorf (1975, p.694), supported the concept that the 'normal economic market' cannot redirect human health resources:

> Despite reservations regarding the intensity of the maldistribution problem, an analysis of the choice of place of practice ... is important in assessing the adequacy of the local supply of medical services as well as in finding a solution for a more equitable distribution of such services on a geographic basis, for the undirected market forces in a free society cannot be relied upon to bring this about (1964, p.116).

Reasons for the geographic maldistribution of health care professionals may be found, in part, in the nature of rural practice and the personal factors disposing such professionals to locate in urban or rural areas. If intervention is required, the development of programs that might attract health personnel to rural areas, and retain them in these areas, becomes a matter of concern for health planners. In order to develop such programs, it is first necessary to understand the factors that enter into a health professional's choice of location (Cooper, et al, 1975, p.18).

2.2 Identification of Factors That Influence the Location Decisions of Rural Health Care Professionals

2.2.1 Nature of Research

Research into factors influencing a health care practitioner's choice of location is generally of two types. One type of research has examined the issue by utilizing attitudinal, opinion surveys focusing on preferential differences among health personnel. Other research has utilized multivariate, statistical spatial models which focused on differences among localities (See: Rimlinger & Steele, 1963, p.1-12; Madison & Combs, 1981, p.267-274; Stewart, et al, 1980, p.53-54). Discussion in this section shall be directed towards the 'survey' research as it relates specifically to the nature of this study.

The attitudinal, opinion surveys have investigated the perceptions and attitudes of health professionals about factors that influence their locations, as well as actual considerations influencing attraction and retention to a particular area. Although research has concentrated on the medical student and physician, attraction and retention factors identified for that particular medical group may have a similar impact on other health care disciplines (See: Beck & Gernert, 1971, p.46-53; Posnick & Drake, 1981, p.167-174; Warner, 1980, p.1-187; Andrus & Fenley, 1974, p.274-278).

Studies on the factors that influence the location decisions of health professionals frequently vary in relation to the study population that is selected for investigation. These studies also vary, but to a lesser extent, in relation to whether the researcher(s) is primarily interested in attraction factors and/or retention factors. One area in which the study population varies is that of geographic location. A study by Parker and Tuxill, as well as studies by Hassinger et al (1980, p.69-79) and Cooper et al(1975, p.18-25), typified research which surveyed physicians located in rural and urban areas (1967, p.327-344). In comparison, studies such as those by Bible (1970, p.11-17) and Parker and Sorensen (1978, p.152-166) represent those that investigated only those physicians located in rural areas. Another characteristic of the study population that varies is physician specialty. Some studies have concentrated on family practitioners (Schmittling, et al, 1981, p. 709-716; Allingham & Fundytus, N.D., p.1-24), some on primary care specialists (Crawford & McCormack, 1971, p.263-268), and others on all types of physicians (Parker & Tuxill, 1967, p.327-344). A third variation of study population selected is the level of experience or years of practice of the respondents. Medical students and/or residents have been selected for some studies (Taylor, et al, 1973, p. 885-895; Wigton & Steinmann, 1981, p. 77-80; Haug, et al, 1980, p.333-338), in contrast to the selection of practicing physicians with a wide range of years of expertise for other research (Diehl, 1951, p. 1134; Bible, 1970, p. 11-17). In other surveys, the study population has included both students and practicing physicians and/or dentists (Diseker & Chappell, 1976, p. 559-563; Grimes, et al, 1977, p. 771-773; Beck & Gernert, 1971, p. 46-53). Finally, in two noteworthy studies (Taylor, et al, 1973, p. 885-895; Stewart, et al, 1980, p. 53-54) questionnaires were forwarded to individuals in health care, as well as their spouses. In reference to the researcher(s) interest in attraction and/or retention factors, studies by Parker and Tuxill, (1967, p.327-344) and Cooper, et al (1975, p.18-25) are illustrative of those concentrating on attraction factors; whereas, research by Parker and Sorensen (1978, p.152-166) as well as by Crawford and McCormack (1971, p.263-268), represent studies which deal primarily with retention factors.

Diversity in the study populations selected for investigation and in the prime area of interest has had an effect on research results. There is no conclusive consensus of opinion as to what factors or variables precisely predict the attraction, or retention, of health personnel to rural areas. A conceptual review of physician location literature by Eisenberg and Cantwell has emphasized the lack of consensus regarding 'physician hypotheses' (1976, p.455-464). A summary of their review is presented in Table I. This lack of consensus is further compounded by the utilization of varied survey methodologies and by the fact that individual studies have been based on study populations specific to a particular geographic region.

Recognizing that the above limitations exist, the salient attraction and retention factors which recur in the literature have been identified. For convenience, the factors that may influence the location - attraction and retention - decisions of rural health professionals can be classified into three groups: background characteristics; professional considerations; and, community characteristics. The remainder of this section shall discuss various influential factors under their appropriate classification.

TABLE I

SELECTED PHYSICIAN LOCATION HYPOTHESES AND SUMMARY EVALUATIONS

HYPOTHESIS	SUMMARY EVALUATIONS*
Physicians tend to locate in areas similar in size to those in which they were reared.	Supportive
Physicians tend to locate in areas similar in size to those of medical school attended.	Supportive
Training experiences and preceptorships in rural areas will influence physicians to locate in rural areas.	Weakly Supportive
Physicians are attracted to areas which they perceive to have a 'high quality of life'.	Weakly Supportive
Physicians are attracted to the areas surrounding a medical school as an aid to their professional development.	Weakly Supportive
Existence of hospital facilities in a rural area tends to draw physicians to that area.	Contradictory
Group practice opportunities attract physicians to rural areas.	Supportive
Physicians tend to locate in urban rather than rural areas because of a relatively greater income potential in urban areas.	Contradictory

*Supportive: the literature examined provides strong evidence leading to acceptance of the hypotheses.
Weakly Supportive: the literature examined provides weak evidence leading to tentative acceptance of the hypotheses.
Contradictory: the literature examined provides valid findings which in some cases lead to acceptance, in others to rejection, of the hypotheses.

Source: Eisenberg, B. & Cantwell, M. Policies to influence the spatial distribution of physicians: a conceptual review of selected programs and empirical evidence. Medical Care, 1976, 14 (6), 457. (See p. 457 for a list of studies which tested the hypotheses).

2.2.2 Background Characteristics

Biases, prejudices, and desires consciously or unconsciously influence the health professional's location decision. The overriding feature of a health professional's background which appears to influence location decision is the size of community in which the individual was reared. In a 1972 study of recent medical school graduates, Cooper et al stated that "practice in a small community is more likely to be the choice of doctors who grew up in small communities than of those who did not" (1972 p.940). In a follow-up paper in 1975, Cooper et al further noted that "even controlling for other variables, 'place of rearing' is significantly related to practice location, reaffirming its previously known importance" (1975, p.24). This particular characteristic or factor has received extensive attention in the literature, along with the influence and background characteristics of the health professional's spouse.

A study of family practice residency graduates conducted by Schmittling et al indicated that, for this group, the physicians were likely to be practicing in a community similar to their backgrounds, that is, where they spent their years prior to high school (1981, p.709). Diehl, who reviewed the records of medical graduates, noted that 58% of the graduates from communities of less than 5,000 residents returned to communities of similar size (1951, p.1134). Research by Bible further supported the influence of this 'place of rearing' factor. The responses of 1,853 United States physicians practicing in nonmetropolitan areas in 1967 indicated that a significant relationship existed between the size of place where the physicians practiced and the size of place where they were reared. Bible's results showed that 49% of the physicians who were practicing in towns of less than 2,500 residents were reared in a small town (1970, p.13).

When research on the influence and background characteristics of the practitioner's spouse is reviewed, it appears that there is reasonably strong support for the contention that the spouse has a significant effect on location decisions. Taylor et al surveyed approximately 200 medical students from rural states, and their wives, and found that the effect of the wife's background was evident among students planning to locate in rural communities (1973, p.885). In a report on 1978 United States medical school graduates, Cuca supported Taylor et al's findings as the data she had collected confirmed a substantial relationship between the medical school graduate's preferred practice settings, hometowns, and the hometowns of their spouses (1980, p.22). Cooper et al have given strong support for this influential factor:

> Both the place of rearing of the husband and of the wife are significantly and directly related to practice location. When both the physician and his wife are from a rural background they should be considered as having the highest likelihood of selecting a rural location (1975, p.24).

This viewpoint, however, has been contested by some researchers. In a study on the community of origin of physician's spouses in Arizona and New Mexico, Stewart et al determined that the situation in which both physician and spouse were from communities of similar size was neither statistically significant nor a good predictor of practice location (1980, p.54). Cuca has also noted that this particular factor may have certain limitations:

> While knowledge of the hometown settings of medical school applicants and their spouses would permit the selection of students likely to locate in ... rural areas, the fact that many applicants may be unmarried makes this particular item of data less helpful than others for altering physician geographic distribution at the admission point on the medical education continuum (1980, p.222).

It should be noted that the influence of the spouse on location decisions has been investigated only for physicians, who are predominantly male. Therefore, results of such investigations may not hold true for other health groups, such as nursing, which are predominantly female.

Although the significance of the influence and background of the spouse is controversial, the contention that the 'place of rearing' of health care professionals, themselves, significantly influences the location decision has received resounding support. The support has led many authors (Carline, et al, 1980, p.682-691; Diehl, 1951, p.1134; Kegel-Flom, 1977, p.204-209; Willoughby, et al, 1981, p. 717-726) to suggest that a medical school admissions program aimed at increasing the number of students interested in practice in rural areas should include provisions for increasing the number of students raised in rural areas who are admitted to its program. Although Parker and Sorensen agree with this strategy to attract health personnel to rural areas, they voiced concern over the effect of this location decision factor on retaining such individuals. In their study of physicians moving into and out of rural areas in upstate New York they concluded:

> Although type of hometown may be an important variable in determining whether physicians decide to practice in a rural community, for at least our respondents that variable in itself was not sufficient to compel them to continue practice in these particular areas (Parker & Sorensen, 1978, p. 156).

A third factor which may influence the health professional's choice of location is the influence of family and friends. This influence has frequently been cited by rural physicians as an important reason for locating their practices where they did (Bible, 1980, p.13; Hassinger, _et al_, 1980, p.75; Parker & Tuxill, 1967, p.332). Although many studies support this hypothesis, Diseker and Chappell, in a survey of practitioners and residents in North Carolina, found that, for this group, family ties were judged low in importance as a location variable (1976, p.562). As well, Cooper et al have noted that the term 'family and friends', as it appears in survey responses, may include other unlisted elements. For example, it may be a surrogate for ethnic or racial concerns. They have suggested that further analysis of this factor should be undertaken (Cooper, _et al_, 1972, p.940).

A fourth location-decision variable often documented is the location of the health personnel's professional education, internship, residency and preceptorship experiences. Those who have the opportunity to train in rural areas frequently locate in rural areas. As in the case for many other variables, the relative importance of this factor has been debated in the literature. Studies by Breisch, as well as by Steinwald and Steinwald (975, p.223) and Grimes et al (1977, p.772), consider this factor to be relatively important (Breisch, 1970, p.1068). However, it should be noted that Grimes et al have contended that rural preceptorships may influence students with rural backgrounds but are of no value for students from urban areas (1977, p.772). Other studies found that rural training experiences were not significant in influencing location decisions (Eisenberg & Cantwell, 1976, p.457).

This contradiction of results may, in part, be attributed to significant regional differences in the effects of preceptorship programs as well as the variation of study design (Wendling, et al, 1981, p.132-133).

A final characteristic of a health care professional's background which may influence his/her location decision is the influence of colleagues and professors during training. In a study by Parker and Tuxill, approximately 65% of the rural respondents felt that this factor was important. Approximately 85% of these same respondents stated that this factor was also important in deterring physicians, in general, from locating in a small community (Parker & Tuxill, 1967, p.332-333). The deterrant nature of this variable arises from the fact that many teachers and role models to which medical students are exposed are strongly oriented towards the basic sciences and high technology of secondary and tertiary care (Steinberg & Lawrence, 1980, p. 621).

A summary of the factors discussed in this sub-section is presented in Table II.

2.2.3 Professional Considerations

Factors directly related to health care professionals' work situations enter into their decisions about location. The opportunity to join a desirable partnership or group practice has often been cited among factors that physicians ranked as being most important in their location decision (Cooper, et al, 1975, p.941; Grimes, et al, 1977, p.772), and this opportunity has been identified as a successful inducement for physicians to locate in rural areas (Yesalis, et al, 1980, p.44; see also: Evashwick, 1976, p.808-823; Cotterill & Eisenberg, 1979, p.141-153). The availability of a suitable group practice opportunity is considered to be important not only in attracting physicians to rural areas, but also in retaining them (Parker & Sorensen, 1978, p.159).

Other factors related to the work situation which also influence location decisions, and which could be alleviated by the group practice form of organization, include the availability of clinical support facilities and personnel (Hassinger, et al, 1980, p. 73), the availability of peer professional manpower (Grimes, et al, 1972, p. 941), and concerns regarding heavy workloads and inadequate time off (Crawford & McCormack, 1971, p. 265). Professional isolation may be feared by some physicians as a necessary part of rural practice. Various aspects of isolation - lack of clinical support and lack of free and informal communication with medical peers - have been documented as important factors deterring physicians from rural practice (Parker & Tuxill, 1967, p. 334). In regards to heavy workloads and insufficient time off, studies strongly suggested that these factors might pose a problem that would evoke widespread dissatisfaction among physicians in rural practice and aggravate attrition in rural areas (Kronhaus, 1981, p. 1240). Cooper et al have succinctly stated that "long hours and the inability to secure uninterrupted free time may be the most foreboding element of rural practice" (1972, p. 941).

Parker and Sorensen's study of the attraction and retention of physicians in small communities indicated that another factor influencing location decisions was that of professional support. In their study they found that good professional support was mandatory for maintaining a satisfying community practice. The respondents to their questionnaire consistently emphasized the importance of those factors relating to good professional support - good community hospital, nearby medical centre, and medical consultants in various fields (Parker & Sorensen, 1978, p.159).

The same study by Parker and Sorensen, as well as a survey of physicians in nonmetropolitan communities by Bible (1970, p.15), lend support to the availability of educational opportunities as another location decision factor (1978, p.153). These studies noted that the perceived lack of opportunities for professional growth and limited access to continuing education programs in rural areas were a concern to physicians and had a significant bearing on the attraction and retention of such individuals to rural communities.

Other research proposed that the following factors may have a positive influence on the attraction and/or retention of health care personnel to rural areas: the likelihood of developing a busy practice earlier (Parker & Tuxill, 1967, p.332); the quality and continuity of physician-patient relationships (Hassinger, et al, 1975, p.21); and, the prospect of being influencial in community affairs (Cooper, et al, 1975, p.21). Factors that have been identified as potentially having a negative effect on locating in rural areas are: a confining work situation, wherein the health care professional finds it difficult to maintain any privacy from patients (Hassinger, et al, 1980, p.73); and, economic insecurity or insufficient income (Cooper, et al, 1975, p.20). The factor of economic insecurity presents a controversial issue. Some research (Lanawell & Werner, 1980, p.1085) suggested that the distribution of physicians across locations was more consistent with hours-of-work variations than with income incentives. Also, Lave et al noted that physicians in rural areas were often originally from small towns, had a preference for this life-style, and claimed to be unconcerned about urban-rural physician income differentials (1982, p.320).

Table II provides a summary of the factors discussed in this sub-section.

2.2.4 Community Characteristics

The setting in which a rural health professional may work appears to have an impact on location choice. The one positive feature of rural communities which attracts and retains health workers is the idea of small town living. In a study of physicians by Parker and Sorensen, they noted that 84% of the respondents claimed that the appeal of small community living was a significant factor in their decision to establish a rural practice. The positive aspects of small community living which this group perceived to be most important were the lack of bustling confusion, clean air, and open space (Parker & Sorensen, 1978, p. 159).

The other community characteristics which may impact upon the decision of health personnel to locate in rural areas have a potentially negative influence on such a decision and may be expressed as perceived inadequacies of rural areas. These factors include: a lack or scarcity of cultural and recreational activities for practitioners as well as for spouses and families (Grimes, et al, 1977, p.772); a lack of adequate schools for children (Cooper, et al, 1975, p.20); and, a lack of privacy from clients, particularly during leisure hours (Crawford & McCormack, 1971, p.265). For certain amenities, there was an expressed need by practitioners that their location of work at least be in close (one hour) proximity to a major cultural and shopping centre (Grimes, et al, 1977, p. 772).

Table II provides a summary of the factors discussed in this sub-section.

2.3 The Geographic Distribution and Professional Education of Rural Health Personnel

2.3.1 Introduction

The transition from geographic maldistribution to an adequate distribution of rural health professionals may be achieved by (1) the attraction of more health professionals to rural communities, and (2) the subsequent retention of these individuals. The ability to attract and retain rural health personnel is only partly dependent upon influencing those factors that affect their choice of location. The geographic distribution of rural health disciplines may also be dependent upon the nature of the health education system. Location decision factors have been reviewed in Section 2.2. This section shall discuss the relationship between the attraction and retention of rural health personnel and their health education.

2.3.2 Conceptual Framework

A review of selected literature for this study revealed that researchers are concerned with the issue of the health education system having an impact upon the geographic distribution of health professionals in rural areas (Crawford and McCormack, 1971, p.263-268; Rosenthal, et al, 1982, p.193-194; Sarnacki, 1979, p.224-229). The association between the geographic distribution of rural health

Table II

FACTORS THAT INFLUENCE THE LOCATION DECISIONS OF RURAL HEALTH PROFESSIONALS

I. Background Characteristics.

- A. Practitioner's place of rearing
- B. Influence of spouse
- C. Influence of family and friends
- D. Location of professional training, internship, residency, and preceptorship programs
- E. Influence of colleagues and professors during training.

II. Professional Considerations.

- A. Opportunity to join a desirable partnership or group practice
- B. Availability of clinical support facilities and personnel
- C. Availability of peer professional manpower
- D. Professional isolation
- E. Heavy workloads and insufficient free time
- F. Availability of professional support
  - good community hospital
  - nearby medical centre
  - medical consultants in various fields
- G. Availability of educational opportunities
  - professional growth
  - access to continuing education programs
- H. Developing a busy practice earlier
- I. Quality and continuity of physician - patient relationships
- J. Prospect of being influential in community affairs
- K. Confining work situations
- L. Economic insecurity.

III. Community Characteristics.

- A. Idea of small community living
- B. Availability of cultural and recreational activities
- C. Availability of adequate schools for children
- D. Opportunity for privacy during leisure hours
- E. Close (one hour) proximity to a major cultural and shopping centre.

professionals and the health education system that has been proposed in the literature is schematically presented in Figure I.

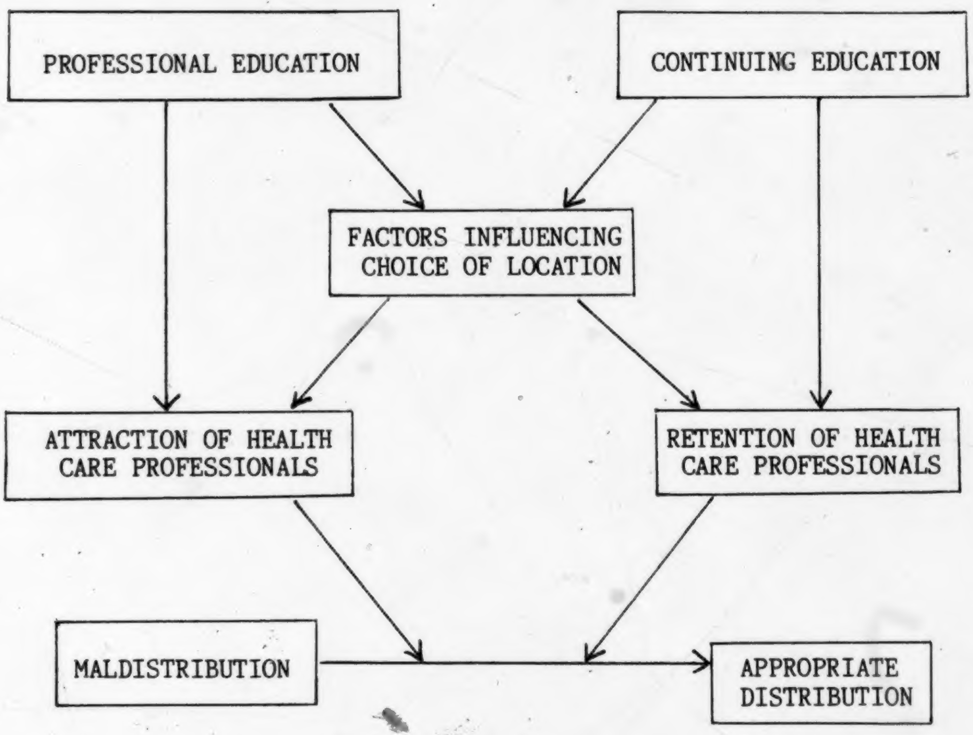
It can be seen that the professional education of health personnel has been perceived to potentially impact upon the attraction of such individuals to rural areas (Sarnacki, 1979, p. 227). Concurrently, it has been postulated that the provision of comprehensive continuing education programs may have an impact upon the retention of health professionals in rural communities (Parker & Sorensen, 1972, p. 155). Researchers have further contended that professional education and continuing education may impact upon the distribution of rural health personnel in two ways. They have suggested that the health education system may have an effect on (1) the quantity or number of personnel working in rural areas, and (2) the quality or competence of these individuals (Parker & Sorensen, 1978, p.163; Sarnacki, 1979, p. 224-229). The association between the geographic distribution and health education of rural health professionals outlined in this subsection shall be discussed in more detail in the remainder of this section.

2.3.3 Professional Education and the Attraction of Competent Health Professionals to Rural Areas

The idea that professional education can influence the attraction of competent health personnel to rural areas has received frequent support in the literature (Sarnacki, 1979, p.224-229; Crawford & McCormack, 1971, p.263-268). The major factors associated with this influence are admission policies, the educational curriculum, and/or rural preceptorships.

FIGURE I

ASSOCIATION BETWEEN THE GEOGRAPHIC DISTRIBUTION AND PROFESSIONAL EDUCATION OF RURAL HEALTH PERSONNEL


PROFESSIONAL EDUCATION
CONTINUING EDUCATION
FACTORS INFLUENCING CHOICE OF LOCATION
ATTRACTION OF HEALTH CARE PROFESSIONALS
RETENTION OF HEALTH CARE PROFESSIONALS
MALDISTRIBUTION
APPROPRIATE DISTRIBUTION

Admission policies which could potentially influence the distribution of health professionals into rural areas are those that give special consideration to applicants from rural communities. This concept and research associated with it has been discussed in detail in Sub-section 2.2.2.

The design and implementation of health education curriculum not only attempt to stimulate an interest in rural health (quantity), but also address the competence issue (quality) by offering course work in the necessary skills and appropriate environment (Sarnacki,1979, p. 227). In a study on physicians who leave primary practice, Crawford and McCormack concluded that the "inclusion of organizational, administrative, and interpersonal aspects of practice in medical training may better prepare physicians for practice in rural areas" (1971, p. 268).

The potential influence of rural preceptorships on the number and competence of health professionals is exemplified by the area health education centre programs in the United States, with one of their goals being to "reduce the maldistribution of health professionals by using student and resident rotations to attract professionals to rural areas" (Krugman, et al, 1982, p. 88). Kennedy further supported the positive effect of rural preceptorships whereby educational programs emphasizing clinical experience in rural settings have been developed in an effort to encourage future physicians to select rural practice locations (1980, p. 261).

A more detailed discussion of the health education's role in influencing the distribution and competence of rural health professionals is provided in Section 2.4. Further, studies which investigate the adequacy of the educational preparation of rural health disciplines are reviewed in Section 2.5.

2.3.4 Continuing Education and the Retention of Qualified Rural Health Professionals

The relationship between continuing education and health professional distribution - retention - has been succinctly described by Rosenthal et al:

> Just as the distribution of health manpower into rural areas remains a problem in health care delivery, so does the flow of medical information to the health care teams in these same areas. This flow of information might be interrelated to the point of influencing manpower distribution. At a minimum, in order to have effective continuing medical education, the flow must be present and uninterrupted (1982, p. 194).

In studies carried out on rural physicians, Parker and Sorensen (1978, p. 155), as well as Bible (1970, p. 15), contended that the limited access to continuing education programs in rural communities tended to make it difficult to retain physicians in such areas. The study conducted by Parker and Sorensen indicated that most graduates showed the greatest concern over the lack of professional and educational opportunities, with 41% of the respondents stating that they were unable to adequately participate in continuing medical education programs (1978, p. 155). These authors strongly support the premise that continuing education has an influence on retaining health practitioners:

> Unless our physicians in upstate New York are highly atypical, and we suspect they are not, we must more aggressively and with greater imagination develop programs to improve their professional satisfaction or large numbers will continue to leave their practices and move on (Parker & Sorensen, 1978, p. 163).

A more comprehensive review of continuing education and relevant studies are found in Section 2.6.

2.3.5 Conclusion

It is important to simultaneously investigate the factors that influence the attraction and retention decisions of rural health professionals, as well as the adequacy of education and upgrading for these professionals. These two components are interrelated and one should be concerned not only that the number of rural health practitioners is adequate but also that the personnel in rural areas can competently provide health services.

2.4 Role of Health Education in Influencing the Distribution and Competence of Rural Health Professionals

2.4.1 Health Care Disparities in Rural and Urban Settings

The conviction that health educators must give special consideration to the distribution and competence of health professionals in rural areas presupposes that rural and urban settings present different work environments and experiences (Kennedy, 1980, p.262). The primary areas of divergence identified in the literature are (1) the professional roles and functions of rural health practitioners, and (2) the differences between rural and urban hospitals.

A pilot study by Greenhill and Singh suggested that the 'therapeutic actions' (professional roles and functions) of rural practitioners differed in significant ways from those of their colleagues in urban centres (1964, p.809). This study revealed the following differences:

> Rural practitioners provide medical services to a wider range of age groups; more pediatric services; a broader range of professional services; a more diversified type of medical service; and, a higher proportion of medical services to the 25 to 44 year age group (Greenhill & Singh, 1964, p. 808).

A report on medical student experiences in rural and university areas documented that there were substantial differences between the experiences in these two settings (Garrard & Verby, 1977, p.802). Differences were found on the following variables: numbers and kinds of clinical problems encountered; skills required; levels of responsibility; continuity of patient care; and, types of patients (Garrard & Verby, 1977, p.802). Studies such as these contend that attention should be directed toward the training of doctors who would be qualified to cope with the variety of medical situations faced by rural practitioners. This viewpoint has also been expressed by those interested in other health care disciplines. In describing a rural hospital practicum for nurses in Nebraska, Pakieser noted that, in comparison to students' experiences in an urban medical centre, rural nursing students learned the value of personalized patient care and informal working relationships, and had the opportunity to utilize available family, hospital and community resources (1978, p.250-251). She stated:

> The students' experience at a large medical centre - with highly sophisticated medical staff, and too often impersonal, illness-oriented package care - did not provide student nurses with the knowledge or familiarity required in a more personalized, community-related health care facility (Pakieser, 1978, p. 249).

It appears, therefore, that the difference between rural and urban hospitals require that health educators give special attention to rural health care. Koenig and Dachelet listed the following disparities: size of physical plant; number of beds; distance from population centres; size of the operating budget; availability of specialized equipment; and, variety of diagnostic or therapeutic services offered (1980, p. 20). As well, in small rural hospitals, there is an inherent deterioration of skills that are not used routinely (Skaling, 1978, p. 55). It appears that these differences, as well as the 'therapeutic action' differences, require that health educators instigate unique strategies to influence the distribution and competence of rural health workers. Selected strategies could include special admission policies, alteration of the educational curriculum, and/or the provision of rural training sites (Fulton, et al, 1980, p.865).

2.4.2 Admission Policies

Admission policies which give special consideration to applicants from rural areas are purported to be an effective strategy to influence the distribution of rural health professionals. A comprehensive review of this concept has been documented in Sub-section 2.2.2.

2.4.3 Curriculum Design

It appears that there is a general concensus that the curriculum in health education institutions can be altered to influence the distribution of rural health personnel, as well as the competency of such individuals (Andrus & Fenley, 1974, p.277). Sarnacki suggested that curriculum modifications would be more appropriate than selective admission policies as the former would more likely ensure an adequate number of competent health professionals. "The key word in this statement is 'competent' and only (curriculum modifications) address the element of competence" (Sarnacki, 1979, p.227). Curriculum changes that would have a positive effect on the number and quality of rural health disciplines include the provision of course material related to rural health practices (Kaufman, et al, 1980, p.317), and the use of rural health centres as clinical training sites (Phillips, et al, 1982, p.615).

In a proposal for training for rural family physicians in Alberta, Higgins outlined certain skills deemed essential if rural physicians were to be competent. These skills, which would be developed in the proposed program, comprised: the possession of effective office practice skills; the ability to work effectively with allied health professionals in the community; and, the ability to consult with colleagues in a distant community, using telephone, radio, and satellite linkage (Higgins, 1981, p.1-2). This proposal also recommended the inclusion of specific procedural training in anesthesia, obstetrics and gynecology, emergency medicine, and orthopedics (Higgins, 1981, p.3). In a report on family medicine, Baker added to the special skills and procedures listed above. He noted that specific training in ambulatory care, continuity of care, and patient counselling was a prerequisite for competent practice in family medicine (Baker, 1974, p.230-233).

Although the effect of rural training sites on the attraction and retention of rural health professionals is controversial (see Subsection 2.2.2), the utilization of this strategy has been widespread (E.G., Page & Anast, 1957, p.613-616; Harris, et al, 1972, p.577-579; Kobernick, 1975, p.308-312; Smith, et al, 1982, p.373-379; Martin, et al, 1981, p.812-817; Andrus & Fenley, 1976, p.317-324).

> Clinical preceptorships and community clerkships have become increasingly important in medical school curricula. Programs providing students with community-based clinical experiences are being adopted by medical schools across the United

> States to increase relevance of the curriculum, to influence career and location choices of future physicians and to expand the breadth of educational resources upon which medical schools can draw (Phillips, et al, 1982, p.615).

Steinwald and Steinwald reviewed rural preceptorship programs in the United States and found that a primary value of such programs was the source of information they provided about unfamiliar life and medical practice styles (1975, p.228). Rural training programs have oriented individuals to the influence of socioeconomic problems on health, the availability of health resources outside the health centre, the use of different health personnel in health care delivery, and the role of family dynamics in health and disease (Putnam, et al, 1975, p.286).

It appears, therefore, that the utilization of rural training programs, in combination with other strategies is expected to facilitate the distribution and competency of health professionals in rural areas. An analysis of the adequacy of professional training and upgrading should provide information to assist health educators and planners in designing and implementing programs oriented toward rural practice (Steinwald & Steinwald, 1975, p. 220).

2.5 Assessment of the Educational Preparation of Rural Health Professionals

2.5.1 Nature of Research

The need to evaluate the adequacy of the professional training that health personnel in rural areas have received has been well documented. The perceived skills necessary for effective rural practice are frequently presented in a descriptive format without corroborating empirical evidence. Further, studies on the benefit of rural training programs frequently investigate the differences experienced by students who have participated in such programs from others, but these studies do not research the effect of these programs on graduates who have located in urban or rural areas. Studies that concentrate on an analysis of the perceived adequacy of professional training by those personnel working in rural and urban areas are severely limited, but appear to be an essential requirement for the evaluation of professional education:

> Assessment of the types of problems physicians handle in their practices and feel should be included in education programs, constitute an important source of information for medical schools making decisions about the type of physicians they are training and the type of delivery system the physician will enter. In particular, information about the types of problems physicians encounter in their practices is essential, although it is frequently unavailable (D'Elia & Folse, 1978, p.301).

Although limited, research reviewed for this project does provide an insight into the adequacy of educational preparation for rural health professionals. For ease of discussion, investigations have been divided into those concerned with course content of the curriculum within the educational setting and those which concentrated on the effectiveness of rural training settings.

2.5.2 Adequacy of the Curriculum Within the Educational Setting

Investigation of the adequacy of the curriculum as it is presented in the educational setting is best represented by a comprehensive study undertaken by D'Elia and Folse in Southern Illinois (1978, p.301-309). This study depicts the types of problems that physicians in nonmetropolitan areas handle and the types of problems that medical schools should prepare physicians to handle. The literature review did not uncover similar research on other health care disciplines. Although the specific findings of this particular project were obtained from physicians, this writer feels that the general conclusions are applicable to the educational preparation of all types of health personnel.

D'Elia and Folse's study, carried out in 1978, was designed to assess the types of problems physicians handle in their practices and which they feel should be included in educational programs. Office records were evaluated and family practitioners (including general practitioners) and general surgeons were questioned about the training that family practice and general surgical residents should receive if they were to be well prepared for practice in nonmetropolitan areas (D'Elia & Folse, 1978, p.302).

These authors found that family practitioners were handling a number of patient problems, the management of which were generally taught on a residency service other than family practice. More specifically, these problems included orthopedic, urological, and surgical cases (D'Elia & Folse, 1978, p.304). Conversely, those physicians in a general surgical practice were seeing a number of patients whose management required the principles and skills taught on primary care services (D'Elia & Folse, 1978, p.307). Those physicians interviewed suggested that training of primary care residents should provide exposure to surgical, obstetric-gynecology, and psychiatric services. This suggestion for surgical training further emphasized the need for training in the area of emergency surgical care, acting as a surgical assistant providing preoperative and postoperative care, and referring of patients to surgeons (D'Elia & Folse, 1978, p.304-306).

For surgical residency training, recommendations were: special primary care training in areas such as respiratory problems, alcoholism, patient counseling, and psychiatric care; and, surgical specialty training in orthopedics and urology (D'Elia & Folse, 1978, p.307,308). D'Elia & Folse concluded:

> The findings that physicians in a nonmetropolitan area see a broad range of problems and that even specialists care for a number of patients with problems not primarily related to their specialty area do have curricular implications (1978, p. 309).

It is apparent, from this study, that the physicians in nonmetropolitan areas required training in addition to, or modified from, that which they had received. Curriculum alterations, which would take into account the findings of this type of research, could positively influence the competency of health personnel in rural areas.

2.5.3 Effectiveness of the Rural Training Setting

Studies which evaluated the rural training experiences of health professionals have, in general, reported that the opportunity to train in a rural area provided individuals with skills which rendered them more competent when they were located in rural settings.

Crandall surveyed physicians in Florida to determine how they retrospectively evaluated their rural clinic programs. The majority of the respondents indicated that such programs emphasized the need for more training in certain specialty areas (gynecology, pediatrics and orthopedics), and alerted those in training to the lack of sophisticated technology in rural locations (Crandall, et al, 1978, p.598). Several of the respondents commented on other aspects of the rural training experience which were considered helpful to them:

> The importance of treating people not disease. It helped maturity of decision making involved in medical care. [It gave] me some idea of what private practice was like (Crandall, et al, 1978, p.598).

A similar study conducted in Newfoundland reported that physicians who had been exposed to a rural health centre felt that the experience improved their understanding of the problems of health care delivery and gave them a better understanding of the place of the team and para-medical workers in health care (Black, 1980, p.1077).

A paper by Glenn and Hofmeister documented a study of the value of rural training sites. These authors forwarded questionnaires to physicians who had completed the University of Missouri-Columbia family practice residency in a rural training centre between 1974-1979. The questionnaire was directed at the completeness and quality of the physicians' training, as judged retrospectively based on their practice experience (Glenn & Hofmeister, 1981, p.378). The research instrument listed training opportunities that might be associated with a rural centre and each physician was asked to rate each opportunity according to a scale ranging from "different and very useful in training" to "not different from usual training". (Glenn & Hofmeister, 1981, p.379). Results of the ranking are presented in Table III. Results suggested that rural training centres provided opportunities that were different from training without rural exposure, and opportunities that were considered useful in both clinical and personal decision making (Glenn & Hofmeister, 1981, p.382).

TABLE III

PHYSICIAN'S RATINGS OF USEFULNESS OF THE RURAL TRAINING EXPERIENCE (N=29)

Training Opportunities	Different and Very/Fairly Useful	Different but Useless	Not Different From Usual
Exposure to assets and liabilities of small hospital	29	-	-
Exposure to strengths and weaknesses of typical rural family physician	29	-	-
Exposure to problems and/or mechanisms for obtaining specialty referrals and consultations for rural patients	28	1	-
Exposure to professional lifestyle of physicians in a small community	27	2	-
Exposure to patients with wider range of medical and social problems	25	1	3
Exposure to patients with more varied socioeconomic backgrounds	22	2	5
Exposure to wide range of community agencies involved in health care (e.g. public health, nursing home, family planning)	22	1	6
Exposure to esteem and confidence rural patients and hospital staff have for family physicians	21	4	4
Exposure to limitations/opportunities available to physician's family (spouse, children) in a rural community	19	5	5
Exposure to specified attending physicians on more intensive basis	19	1	9

Source: Glenn, J.K. & Hofmeister, R.W. Rural training settings and practice location decisions. The Journal of Family Practice, 1981, 13 (3), 380.

From the studies discussed, it would appear that the opportunity to have training in rural areas does provide participants with unique experiences which have a positive effect on their level of competency when locating their practices in rural communities.

2.6 Assessment of Continuing Education for Rural Health Professionals

2.6.1 Nature of Research

Continuing education for health professionals in any locale, rural or urban, is considered necessary, not only to maintain and upgrade job performance, but to introduce new skills and procedures (Wilson, et al, 1982, p.637), and to enhance the professional and personal growth of participants (Koenig & Dachelet, 1980, p.20). In this regard, it appears that there is general agreement that the ultimate goal of continuing education is to influence the quality of patient care (Pickard & Burns, 1979, p.416). For rural areas, continuing education is also essential to retain health personnel in their rural communities (Bowes, et al, 1983, p.82; see also Sub-section 2.3.4), and to dispel some of the feelings of isolation experienced by health workers serving patients basic needs in rural locales (Ralston, 1979, p.822).

Because of the potential role that continuing education can play in quality patient care, enhancement of personal and professional growth, reduction of professional isolation, and retention of rural health care personnel, it has received substantial attention by researchers. However, research that has been conducted has tended to concentrate on one, or a combination of, three primary aspects of continuing education: factors that deter rural health professionals from attending continuing education programs; the identification of specific needs of rural health professionals; and, continuing education program designs. These three topics shall be discussed in the remainder of this section.

2.6.2 Barriers to Participation

To effectively provide continuing education programs, planners must be able to accurately assess the relative impact of a wide variety of factors that limit attendance. Research has identified a number of barriers which limit rural participation in continuing education programs. These barriers may conveniently be classified into three categories: that is, situational; institutional, and; dispositional factors (Harvey, 1983, p.126).

Situational barriers are those that arise from one's situation in life at any given time (Harvey, 1983, p.126), and comprised:

1) the distance that must be travelled to attend courses (Owens, et al, 1979, p.1261; Harvey, 1983, p.131; Beebe & Elrite, 1976, p.5; Bunning, 1975, p.28);
2) family responsibilities (Harvey, 1983, p.125; Shockley, 1981, p.20);
3) coverage for job responsibilities not readily available (Grad, 1975, p.283; Pickard & Burns, 1979, p.416; Bunning, 1975, p.29; Owens, et al, 1979, p.1261);
4) personal cost of travel and fees for courses (Grad, 1975, p.283; Koenig & Dachelet, 1980, p.21);

5) cost of travel and fees not provided by employers (Beebe & Elrite, 1976, p.5);

6) employers are restricted by small budgets for education (Bunning, 1975, p.28), and;

7) employers do not encourage participation in continuing education (Beebe & Elrite, 1976, p.5).

Institutional barriers are those practices and procedures which exclude or discourage individuals from participating in educational activities. They are related to program characteristics and how they fit with the individual's personal and vocational situation (Harvey, 1983, p.126). Those barriers include:

8) the failure of continuing education courses to meet the specific needs of rural health personnel (Owens, et al, 1979, p.1261; Koenig & Dachelet, 1980, p.21);

9) continuing education programs offered by urban hospitals are designed to accomodate their own work schedules (Koenig & Dachelet, 1980, p.21), and;

10) lack of communication between educational institutions and rural practitioners (Owens, et al, 1979, p.1261).

Dispositional barriers are those related to the attitudes and self-perceptions about oneself as a learner (Harvey, 1983, p.126). These factors are:

11) lack of confidence in ability to succeed (Harvey, 1983, p.126), and;

12) varying motivation (interest/disinterest) of rural health professionals to seek continuing education (Owens, et al, 1979, p.1261).

2.6.3 Identification of Specific Needs

As noted in the above sub-section, one of the institutional barriers to professional upgrading is the failure of continuing education programs to meet the specific needs of rural health professionals. A fundamental principle of continuing education concerns the importance of conducting an assessment of need before planning and implementing a program (Harvey, 1983, p.126). This assessment of need may be determined by numerous methods, often dependent on the health care discipline under investigation. Many studies have simply utilized an open-ended question to elicit responses on special continuing education needs. Other studies are more refined and use a formulated survey. To identify the specific needs of nurses, Shockley employed a self-assessment inventory whereby nurses identified the status of their knowledge, with the results used to determine areas for continuing education (1981, p.23). Harvey researched the issue of continuing education for geographically isolated therapists and identified 'learning needs' by utilization of a list of clinical competencies (1983, p.127). In a paper by Bowes et al, they described a government survey which requested physicians to indicate clinical topics which were deemed most meaningful (1983, p.81,82).

If continuing education is to be undertaken and meaningful, specific needs of rural health professionals must be identified. Determining these needs is often a major difficulty (Owens, et al, 1979, p.1261), but the fact remains that comprehensive rural continuing education programs can only be developed on the basis of survey results which address the expressed needs of all groups surveyed (Rosenthal, et al, 1982, p.194).

2.6.4 Delivery Methods

Given the numerous barriers to continuing education, particularly situational barriers, it is important that any research on continuing education investigate program designs that would more effectively deliver professional upgrading to rural locales.

Literature on the methods of delivery of continuing education for rural area health professionals dealt primarily with descriptions of programs utilizing innovative delivery methods, while research on the perceived preferences of rural health personnel for different types of program designs was markedly limited. Descriptive articles advocated: on-site or 'out reach' programs (Grad, 1975, p.283; Pickard & Burns, 1979, p.416; Farley, 1979, p.7); self-instruction materials, such as audio-visuals (Shockley, 1981, p.23); correspondence courses (Wilson, et al, 1982, p.635); and, modern communications technology, such as teleconferences and slow-scan video systems (Dunn, et al, 1980, p.493). A slow-scan video system used in northwestern Ontario since 1977 permits the use of regular telephone lines to transmit visual images, including xrays and cardiograms. In a report on this system, Dunn et al noted:

> A slow-scan video system designed to assist and augment medical diagnosis and management appears to be an appropriate vehicle for conducting continuing medical education for health professionals located in remote areas (1980, p.495).

One study which did research the perceived preferences of occupational therapists for different types of delivery methods has been documented by Harvey (1983, p.125-132). Of eight alternative methods that were listed, she requested that respondents rank the three most preferred. The methods were categorized into direct (workshops, short courses, evening series, and travelling consultants) and, distance (audio tapes, educational television, educational radio, and correspondence). The results of the survey indicated that the workshop was most preferred (Harvey, 1983, p.131). This finding was at odds with the identification of transportation and distance as the greatest barriers to continuing education participation for rural occupational therapists. Harvey hypothesized that the preference for workshops illustrated a familiarity with that method rather than a preference, in comparison, to more unfamiliar methods. She also concluded that the workshop may provide opportunities for professional interaction and socialization and, therefore, may be an attempt to decrease professional isolation (Harvey, 1983, p.131).

Apparently, the continuing education needs of rural health professionals require ongoing attention. Rapid advancements in medical technology and clinical procedures, as well as the unique and changing health needs of various geographical areas, demand that the professional upgrading of those in rural locales be maintained at an effective level. This attention should encompass evaluation of barriers to participation, the determination of specific needs of rural practitioners, and the identification of preferred delivery methods. Medical schools, hospitals, and other agencies, in co-operation with health care societies, should study new methods of making available continuing health education for professionals practicing in rural communities (Bible, 1970, p.16).

2.7 Literature Related Specifically to Alberta

2.7.1 Introduction

Concerns regarding the geographic distribution and professional education of rural health professionals which have been previously discussed in this chapter also prevail in Alberta. Before reviewing relevant provincial studies this Introduction shall present a brief overview of certain demographic features of the province which contribute to distributional and educational difficulties for rural health. These demographic factors include:

1) a significant degree of urban population concentration in Edmonton and Calgary regions with a host of smaller centres, a large rural area, and a northern "frontier" (Northcott, 1980, p.17-18);
2) a remote, isolated northern region with the delivery of health care significantly impeded (compared to southern and urban Alberta) by factors of distance, scattered population, travel time, and severe weather conditions (Warner, 1980, p.65);
3) a northern region with health demands which "are similar to those of the northern areas of other provinces but, perhaps, appear more dramatic when set against a proliferation of rapid [economic] development" (Warner, 1980, p.2), and;

4) native people which make up a significant proportion of the population in many rural and isolated communities and whose lifestyle present unique challenges to health personnel (College of Family Physicians of Canada, Alberta Chapter, 1982, p.10).

The remainder of this section shall discuss provincial studies on the geographic distribution and professional education of health professionals in rural Alberta.

2.7.2 Geographic Distribution of Health Professionals

Various studies have been undertaken to examine the geographic distribution of health professionals in Alberta. Two of the more prominent research projects include a study of medical manpower in Alberta during the period of 1963 to 1972 (Angus, 1976, p.1-132), and an investigation of the health needs in northern Alberta in 1980 (Warner, 1980, p.1-187). Angus, a Senior Health Economist for Statistics Canada, examined the geographic distribution of physicians and surgeons in Alberta by geographic location. He noted that, when Alberta was separated into urban and rural areas, there was a significant divergence in the percentage distribution of specialists and general practitioners between the two types of locations, with both groups of physicians predominantly located in urban areas (Angus, 1976, p.24). It would appear that the statistics tabulated in a background paper prepared for the Conference on Rural Health Care supported this finding (Department of Hospitals and Medical Care, 1981, p.1-21). This discussion paper reported that, for general practitioners, the lowest physician-population ratios existed in southern rural Alberta and there was an absence or a low number of some specialists in rural areas (Department of Hospitals and Medical Care, 1981, p.13). This rural-urban disparity was further supported by a study conducted by Northcott of the University of Alberta. In his research on rural-urban physician distribution, Northcott claimed that physician maldistribution did exist, with an overrepresentation of physicians in the more populous census divisions (1980, p.21). Although these studies document an inequitable distribution, or an urban concentration, of physicians, there is no firm empirical evidence to support the notion that maldistribution represents an inaccessibility to medical services. Northcott noted that it was unrealistic to expect to eliminate rural-urban disparities. Further, he suggested that it would be more practical to consider the optimization of service distribution by identifying acceptable levels of rural-urban disparity (Northcott, 1980, p.22). Similarly, Angus also noted:

> It appears that there may be a problem regarding the distribution of doctors in Alberta. However, without further research into such areas as the actual proximity of population to physicians' services, productivity of doctors by regions, the regional availability of capital (hospitals) and labor for the physicians, etc., the absolute (or even the relative) severity of the problem cannot be documented (1976, p.108).

Warner's study on health care needs in northern Alberta, commissioned by the Northern Alberta Development Council, investigated the geographic distribution of various health personnel in the northern regions (1980, p.1-187). The report on this study indicated that health personnel to population ratios appeared lower for all northern areas. Warner claimed that, compared with Alberta as a whole, there was a perceived deficiency of manpower for physicians, dentists, speech pathologists, laboratory and xray technicians, nursing and rehabilitation therapists (1980, p.110). The contention that rehabilitation therapists were in short supply in northern regions was supported by an evaluation of physiotherapy staff shortages in Alberta:

> Compared to city and metropolitan areas, northern and rural areas have had more difficulty attracting physiotherapists to health units: the only long-standing (over 6 months) vacancies between 1978 and 1980 were in Northern Rural health units (Association of Chartered Physiotherapists of Alberta and the Alberta Physiotherapy Association, 1982, p.15).

The study by Warner identified a considerable number of gaps between the demand and need for health services in northern Alberta. He concluded that the health care situation, compared to the province in general, was not equitable, but qualified this:

> The Northerners contacted during this study did not demand either an equal range or similar calibre of services compared with those provided in the South. Rather, their search was for a raised level of minimum (Warner, 1980, p.187).

In contrast to the above-mentioned studies, a 1978 report prepared by the Rural Health Care Facilities Policy Development Committee suggested that Alberta did not suffer from major physician maldistribution. However, this report did acknowledge that it was important to maintain existing standards of practice in rural and northern areas (Linderman, 1980, p.4).

It is difficult to draw any single general conclusion about the severity of health professional maldistribution in Alberta. If it is perceived that the maldistribution that does exist threatens consumer accessibility to rural health services, then it is essential that attention be directed towards the attraction and retention of competent rural health personnel. If, on the other hand, health professional maldistribution is perceived to be in existence but not a threat to the provision of adequate health services, the attraction and retention of rural health personnel should continue to be scrutinized in order to ensure the maintenance of existing levels of health care.

2.7.3 Attraction and Retention of Rural Health Professionals

Research on the attraction and retention of health professionals in rural areas of Alberta has been conducted by various parties interested in the health needs of rural Alberta. The Alberta Hospital Association (AHA) surveyed their membership in rural or isolated areas to determine the magnitude of concerns regarding physician recruitment. In general, the membership claimed there was a need for more general practitioners and the majority expressed great difficulty in recruiting physician manpower to their hospital districts (AHA, 1981, p.1,3). The major difficulties listed by respondents were: a shortage of physicians willing to locate in rural areas; a 'burn-out' of those physicians in rural areas due to on-call responsibilities and lack of vacation relief; community physicians were getting older and it was difficult to find replacements; a lack of inservice training; and, a lack of expertise and consulting services for rural physicians (AHA, 1981, p.3). The contention, in this study, that 'burn-out' was a major difficulty was also documented by Warner. He found, for northern Alberta, that difficulties in recruitment and retention were apparent and that 'burn-out' of staff carrying heavy caseloads was an important influence on turnover of staff (Warner, 1980, p.65). Warner also noted that health professionals were difficult to attract due to isolation from fellow professionals, educational institutions, and large urban centres (1980, p.70).

Interest in the attraction and retention of rural health personnel is further exemplified by a study undertaken by Allingham & Fundytus at the University of Calgary. These physicians studied the location decisions of graduates from their Family Medicine Residency Program to demonstrate the feasibility of predicting the urban or non-urban practice location selected by past graduates. Allingham & Fundytus concluded:

> There is little doubt that size of community of rearing is the most important single factor in determining where a resident will set up his own practice (N.D., p.14).

They suggested that their findings be taken into consideration when selecting applicants to medical school in order to positively influence the percentage of graduates electing to set up practice in rural areas (Allingham & Fundytus, N.D., p.2).

Other interest in the attraction and retention of rural health professionals is evident by the concern expressed by participants of the Conference on Rural Health Care and the Northern Alberta Development Council (NADC). One consensus of the Conference on Rural Health Care was that, in order to attract physicians to rural areas, there be a professional subsidy for physicians in rural communities, graded with respect to isolation. The report on the Conference recognized that this matter was currently being negotiated between the Alberta Medical Association and the Department of Hospitals and Medical Care; however, participants felt it was important to document their views and set out some general principles (College of Family Physicians of Canada, Alberta

Chapter, 1982, p.8,9). In reference to the NADC, two of its projects illustrate a concern about health professionals in northern regions. Since 1974, NADC has operated a Student Bursary Program to provide incentives for northern students to attend post-secondary educational institutions and return to professional and technical positions in northern Alberta, particularly in remote and isolated locations. Since inception of the program, over 700 students have been assisted and most of the returning graduates have remained in the north. However, only 14% of the 700 students have been trained in health fields (Lindeman, 1980, p.A25-A27). A second project, recently developed by NADC, is its recruitment meetings held in large urban centres. By publicizing the doctor-shortage situation in northern Alberta and creating a high profile in urban areas, NADC hopes to recruit more physicians to northern regions. If successful, the recruiting campaign may be expanded to include other health professionals (Edmonton Journal, 1983).

Research that has been conducted, as well as views expressed by health professionals and action taken by some groups, demonstrate that the attraction and retention of health professionals in rural Alberta is an issue that has drawn, and continues to draw, significant interest.

2.7.4 Professional Training and Upgrading for Rural Health Professionals

A review of selected literature pertaining to the professional training of rural health personnel indicated that the health education curriculum for a number of health disciplines was deficient in certain areas. Community health nurses in northern Alberta expressed a need for training in areas such as occupational health (Warner, 1980, p.78). For dental hygienists, it was suggested that the curriculum include northern community aspects of dental health (Warner, 1980, p.77). The early and sufficient (at least six months) exposure of medical students to rural practice received frequent notation as a means by which to improve the competency of such individuals should they choose to locate in rural areas (College of Family Physicians of Canada, Alberta Chapter, 1982, p.10; see also: Higgins, 1981, p.2; Warner, 1980, p.163). A proposal for training for rural family physicians, prepared by Higgins, exemplified the perceived need to improve training for family physicians for rural and remote areas (1981, p.1-6). This need was also reinforced by participants of the Conference on Rural Health Care:

> The majority of physicians practicing in smaller communities expressed concern that current family practice training, while effective in producing well-trained physicians for urban practice, fell short in meeting the needs of rural practice. Additional skills are needed for rural practice, particularly in the area of procedures (College of Family Physicians of Canada, Alberta Chapter, 1982, p.11).

A report on the study on physiotherapy staff shortages in Alberta expressed similar convictions regarding the adequacy of professional training for physiotherapists working in organizational settings frequently located in rural areas:

> The special problems of health units and home care programs suggest that educational programs designed to train physiotherapists for home care and health unit employment are warranted. This special training may enable physiotherapists to work in these institutions directly after graduation (rather than after several years of experience), and may encourage physiotherapists who are currently not employed in health units or home care situations to seek employment in those institutions (Association of Chartered Physiotherapists of Alberta and the Alberta Physiotherapy Association, 1982, p. 42).

Continuing education for rural health personnel in Alberta also appeared to be deficient in certain respects. Warner reported that health professionals working in northern regions of Alberta had limited access to continuing education and he suggested that regular subsidized time out for 'refresher' courses and upgrading would enhance the work situation (1980, p.71). His finding that access to continuing education for community health nurses required improvement (Warner, 1980, p.78) was supported by a survey of community health nurses employed by health units and a local board of health in Alberta (Alberta Social Services and Community Health, 1977, p.1-127). Due to the finding that 38% of nurses with over 10 years of community health nursing experience did not feel they had an area of expertise, this study concluded that continuing education should be improved for community health nurses to develop their areas of expertise (Alberta Social Services and Community Health, 1977, p.19). Other research on the adequacy of continuing education could not be found; however, the Summary Report of the Conference on Rural Health Care indicated that measures need to be taken to improve the upgrading of rural health professionals. This report noted that adequate facilities should be provided for upgrading the skills of rural physicians (College of Family Physicians of Canada, Alberta Chapter, 1982, p.12) and extensive use should be made of existing and future communications technology for consultation related to patient care, as well as teaching (College of Family Physicians of Canada, Alberta Chapter, 1982, p.4).

Literature on professional training and upgrading for rural health professionals in Alberta is rather limited but publications that were reviewed implied that there is a need to improve the health curricular designs and the availability of effective continuing education. The limited literature, particularly limited studies, also manifests the need for further research in this area.

2.8 Summary

2.8.1 Overview

The geographic maldistribution of health professionals, particularly physicians, has received persistent attention throughout the twentieth century. The conviction that rural communities suffer from a shortage of health professionals, which threatens consumer accessibility to health services, has prompted extensive research on the determination of factors that influence health professionals' location decisions.

It is apparent, from the literature review, that health educators can play a salient role in altering the geographic distribution of health personnel and in ensuring that the educational preparation and upgrading of such individuals are appropriate and adequate. Course work provided within the direct educational setting, the provision of rural clinical training programs, and the provision of comprehensive continuing education programs may assist to improve the number, and competency, of rural health personnel.

Research on the attraction and retention of competent rural health professionals in Alberta was relatively limited. The selected literature review indicated that there is concern about the attraction and retention of health professionals in rural Alberta and there appears to be inadequacies in the educational preparation and upgrading for health personnel located in rural communities.

2.8.2 Findings

Findings from the review of selected literature are listed below.

1. Research on rural health professionals focused primarily on physicians, with research on other health disciplines limited. As well, studies seldom simultaneously investigated location decision factors and the adequacy of health education.
2. Most studies on rural health personnels' location decisions utilized attitudinal, opinion surveys. Such studies identified a number of location decision factors comprised of personal characteristics, professional considerations, and community characteristics.
3. Research on the perceived adequacy of education for rural health personnel were severely limited but suggested that training was inadequate for certain organizational and administrative demands, as well as for special clinical procedures.
4. Studies on rural health continuing education consistently suggested that there were inadequacies in the accessibility, content, and design of continuing education programs. Such studies suggestioned that:
    a. there were certain barriers limiting the participation of rural health professionals in continuing education;

b. specific needs of rural health personnel were not being met through continuing education; and,

c. to provide comprehensive continuing education there was a need to determine alternate methods of delivering such education to rural communities.

2.8.3 Conclusions

Conclusions that were evident following the literature review are discussed below.

1. A comprehensive study on rural health professionals must concurrently research those factors that influence location decisions, as well as the adequacy of education and continuing education for rural health personnel.
2. By understanding factors that enter into a health professional's choice of location, health planners could potentially implement strategies to attract professionals to rural communities, and retain them in these areas.
3. Research designed to analyze the adequacy of professional education and continuing education for health professionals located in rural settings could provide a basis for an effective curricular design oriented toward rural practice.
4. To facilitate health planning in Alberta, further research is required to identify factors which influence the location decisions of rural health personnel and to determine the adequacy of educational preparation and continuing education for health professionals in rural settings.

This study was designed to obtain information necessary for effective health planning in Alberta. The methodology employed is discussed in the following chapter.

CHAPTER III

METHODOLOGY

The purpose of this chapter is to describe the study methodology that was used by discussion of 1) the research strategy, 2) questionnaire development, 3) questionnaire distribution and data collection, and 4) the data analyses strategies.

3.1 Research Strategy

A review of selected literature indicated that studies on rural health professionals focused primarily on the physician while other health professionals were seldom the subjects of such studies. Furthermore, researchers tended to concentrate on one specific area of interest and few studies were identified which simultaneously investigated 1) the attraction and retention decisions of rural health professionals, and 2) the adequacy of health education and continuing education for health personnel working in rural communities.

When studies relating specifically to Alberta were reviewed it was noted that the above limitations also prevailed. A study by Warner (1980, p. 1-187) did examine attraction and retention of rural health professionals and the health education and upgrading of such individuals; however, the study was restricted to health professionals working in northern Alberta. These research limitations prompted the undertaking of this particular study so that the terms of reference of the Working Party on Education of the Conference on Rural Health Care (see Section 1.4) could be realized. Subsequently, the primary objectives of this study are to identify 1) factors which influence the attraction and retention decisions of health professionals working in rural areas of Alberta, and 2) the adequacy of health education and upgrading of these individuals. To meet these objectives several steps were taken to develop an appropriate research strategy (see Figure 2). These steps shall be discussed in this and following sections.

The initial step of the research strategy was to carry out a review of selected literature in order to establish the theoretical underpinnings of this research project and, in particular, to identify published studies and provide a basis for the selection of pertinent variables to be included in the research instrument. The studies that were examined 1) aided in the development of the research methodology, 2) identified a number of factors that potentially influence the location decisions of rural health professionals, and 3) identified salient aspects of health education and continuing education that should be examined when assessing the adequacy of such education for health professionals working in rural areas.

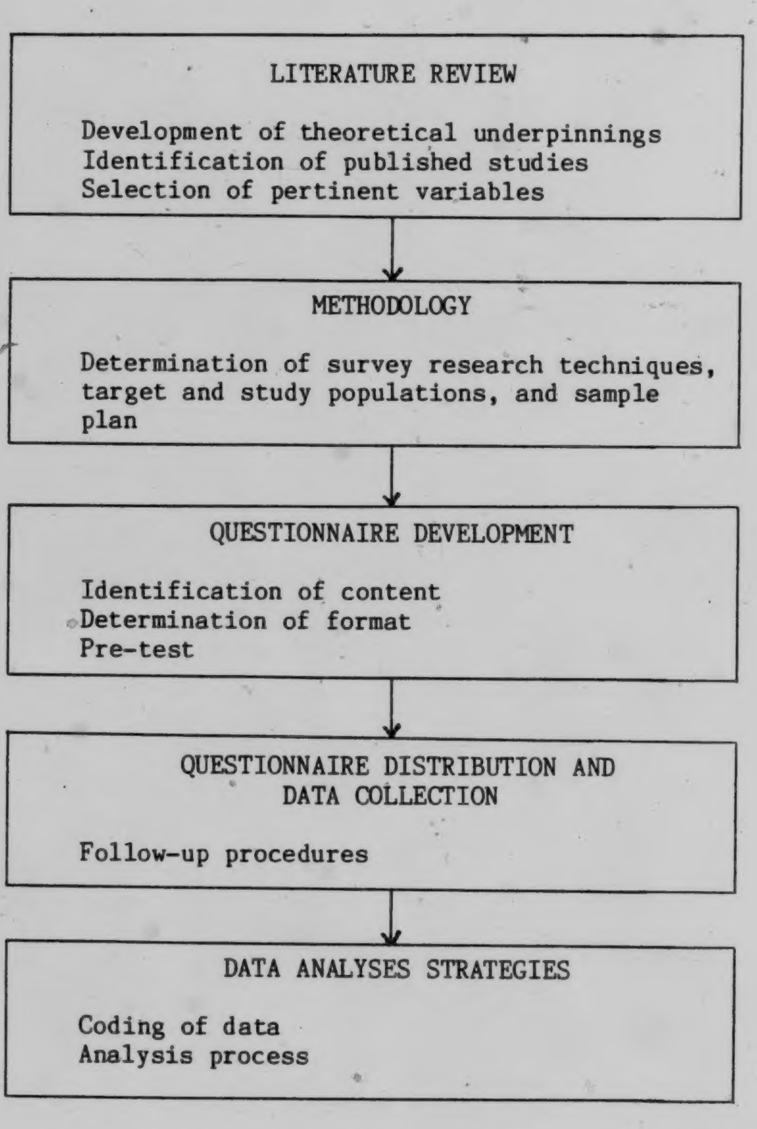
3.1.1 Survey Research Approach

In order to obtain the required information on rural health professionals it was decided to employ survey research techniques. The data collection methodologies considered for use in the study were the mail questionnaire survey and the personal interview. The advantages and disadvantages of these two techniques will be briefly reviewed.

The mail survey has the advantage of being substantially more economical than the personal interview and is less time consuming for both the investigator and respondent. It is also possible to cover a

FIGURE 2

RESEARCH STRATEGY


LITERATURE REVIEW
Development of theoretical underpinnings
Identification of published studies
Selection of pertinent variables
METHODOLOGY
Determination of survey research techniques, target and study populations, and sample plan
QUESTIONNAIRE DEVELOPMENT
Identification of content
Determination of format
Pre-test
QUESTIONNAIRE DISTRIBUTION AND DATA COLLECTION
Follow-up procedures
DATA ANALYSES STRATEGIES
Coding of data
Analysis process

wider geographical area and a large study population in less time than would be required by a data collection technique such as the personal interview. Other advantages of the mail survey are the absence of interviewer bias, a possibility of frank and honest responses as anonymity of respondents is ensured, and the fact that respondents are allowed more response time. In contrast to these advantages the mail survey is characterized by certain disadvantages that limit its desireability as a research technique. The most prominent disadvantage is that response rates for mail surveys are generally very low and procedures should be implemented to increase the response rate. Other disadvantages of the mail survey are: potential bias due to systematic non-response; inability to control the sequence of questions and answers; misinterpretation of questions; inability to clarify ambiguous answers, and; the questionnaire may be completed by someone other than the individual for whom it was intended.

In contrast to the mail survey, the personal interview has the advantage of being an extremely flexible means of data collection and the response rate for this technique is generally high. The investigator is able to ensure that the intended respondent is the only individual who participates in the data collection process and during the interview ambiguous questions and answers can be clarified. However, as with the mail survey, the personal interview also presents certain disadvantages. One major disadvantage in selecting the interview as the method of obtaining data is the extensive amount of time required to carry out the procedure. As well, the personal interview is often the most expensive form of data collection. The personal interview also has the disadvantage of introducing bias into the data collection process. Respondent bias may occur as anonymity is not ensured and privacy may be invaded. Interviewer bias may also result as survey questions and responses may be interpreted nonobjectively.

In view of the advantages and disadvantages discussed it was decided to utilize the mail survey technique supplemented by personal interviews. The mail survey method was selected as it offers the most economical and feasible approach. As data for this study were required from a geographically widespread and large population it was determined that requirements in terms of time, personnel, costs per respondent, and costs per geographically dispersed respondent would be more reasonable if the mail survey technique was employed. Selection of the mail survey was further supported by the fact that the target population was comprised of busy health professionals who could be reached more readily and conveniently by mail. Attempts were made to circumvent the potentially low response rate of the mail survey by employing strategies to increase the response rate (to be discussed in subsequent sections). As well, measures were taken to ensure that the format of and items contained in the questionnaire would provide clarity and ease of interpretation (to be discussed in subsequent sections). By supplementing the mail survey with some personal interviews the investigator would be able to acquire more indepth information on special areas of interest selected following analysis of the questionnaires.

3.1.2 Target and Study Population

After deciding to use the mail questionnaire supplemented by personal interviews, it was necessary to determine the target and study populations. For the purposes of this study the target population was defined as all health professionals practicing and residing in rural Alberta at the time of the study (for a definition of 'rural' see Section 1.7). In agreement with the Working Party on Education of the Conference on Rural Health Care the target population was limited to, and comprised of, the following professions or sub-populations:

physicians;
dentists;
registered nurses;
physiotherapists;
occupational therapists;
speech pathologists;
dental hygienists;
laboratory technologists;
medical radiation technologists;
combined laboratory and x-ray technicians;
dieticians;
nutritionists; and,
dietary technicians.

Following the decision to include the above sub-populations in the study, it was then necessary to determine a means of accessing each element within each sub-population. This required that a sampling frame be selected for each sub-population such that every element in the sub-population had some chance of being included in the sample. To ensure reasonable ease of access to each element, sampling frames were selected which could readily be obtained by the investigator. Updated sampling frames were, for the most part, acquired from the respective professional associations of each sub-population and, subsequently, excluded those individuals that were not members of their respective associations. Table IV lists each sub-population as it was determined by the sampling frame used in the study. In summation, the study population was comprised of health professionals who met the following criteria:

> practiced and resided in rural Alberta at the time of the study, and;
>
> were included in one of the sub-populations as determined by selected sampling frames (see Table IV).

3.1.3 Sampling Design

Once the study population was defined the next step in the research strategy was to determine the sampling design. It was initially decided to use a probability sample of each sub-population or stratum of the study population. Probability sampling is preferable as it permits generalization of findings to the universe sampled, allows inference of population parameters, and permits estimation of the margin of uncertainty. When the population size of each sub-population was calculated it was subsequently decided to use a probability sample of only the three largest sub-populations or professions, specifically physicians, dentists, and registered nurses. Probability sampling of these professions would reduce the cost and time elements of the study. As the population size of each of the remaining professions was relatively small, no sampling of these professions was involved. When the physician sub-population was analyzed in more detail it was noted that this profession could be classified into two distinct sub-populations to include general/family practitioners and specialists. When the population size of each of these sub-populations was calculated it was decided, on the basis of population size, to use a probability

TABLE IV

STUDY POPULATION

INITIAL SUB-POPULATION	FINAL SUB-POPULATION AS DETERMINED BY SAMPLING FRAMES
Physicians	Physicians registered with the College of Physicians and Surgeons of Alberta
Dentists	Dentists registered with the Alberta Dental Association
Nurses	* Nurses registered with the Alberta Association of Registered Nurses
Physiotherapists	Physiotherapists registered with the Association of Chartered Physiotherapists of Alberta
Occupational Therapists	Occupational therapists registered with the Alberta Association of Registered Occupational Therapists
Speech Pathologists	Speech pathologists registered with the Alberta Community Health Speech Pathologists
Dental Hygienists	Dental hygienists registered with the Alberta Dental Hygienists Association
Lab Technologists Medical Radiation Technologists Combined Laboratory/ X-ray Technicians	Technologists and technicians who are members of the Health Sciences Association of Alberta
Dieticians/ Nutritionists	Dieticians/nutritionists registered with the Alberta Registered Dieticians Association
Dietary Technicians	Dietary technicians registered with the Alberta Society of Dietary Technicians

* The Alberta Association of Registered Nurses accessed their own computerized sampling frame in line with the sampling requirements of the study.

sample of only the general/family practitioners with no sampling of the specialists.

Pre-stratification of the study population was based on the profession of each individual in the study population. The stratification of the study population into fourteen mutually exhaustive and exclusive strata improves the precision level of the estimate and allows tabulation at the sub-population level. Pre-stratification based on other variables such as marital status, age, size of community of practice, or size of place of rearing was not undertaken as these variables were unknown at the design stage. It was felt that the generous allocation of sample size would hopefully ensure that the specific number of cases in each category of these variables would be obtained in order to provide stable estimates of parameters.

3.1.4 Sampling Plan

For each of the professions that was sampled (general/family practitioners, dentists, registered nurses) the sampling plan employed was systematic sampling. The sample size was allocated such that the estimated usable returns would provide usable estimates for each subpopulation and systematic sampling of respective sampling frames was carried out independently for each of the three sub-populations.

Table V indicates the number of professionals in each subpopulation, sample size selected, sampling fractions where applicable, estimated response rates and estimated usable returns for each subpopulation.

For the general/family practitioners, dentists and registered nurses subjected to systematic sampling the sampling ratios were 1/4,

TABLE V

SAMPLE SIZE ALLOCATION

(A) Discipline (Sub-population)	(B) Population Size	(C) Sample Size	(D) Sampling Ratios C/B	(E) Estimated Response Rate	(F) Estimated Usable Returns
General/Family Practitioners	550	123	1/4	40%	49
Specialists	57	57	1/1	40%	23
Dentists	216	108	1/2	40%	43
Registered Nurses	5080	180	1/28	60%	108
Physiotherapists	60	60	1/1	60%	36
Occupational Therapists	13	13	1/1	60%	8
Speech Pathologists	44	44	1/1	60%	27
Laboratory Technologists	103	103	1/1	60%	62
Medical Radiation Technologists	80	80	1/1	60%	48
Combined Laboratory/ X-ray Technicians	89	89	1/1	60%	53
Dental Hygienists	52	52	1/1	60%	31
Dieticians	25	25	1/1	60%	15
Nutritionists	3	3	1/1	60%	2
Dietary Technicians	22	22	1/1	60%	13
Total	6,394	959			518

1/2, and 1/28 respectively. A response rate of 40% was assumed for physician and dentistry sub-populations and a response rate of 60% was assumed for all other sub-populations. From the total sub-population size of 6,394 a total sample size of 959 was selected. This total sample size was considered to be most feasible in light of time and financial constraints. Given the estimated response rates, the total sample size was estimated to yield a total of 518 usable returns.

Once sample size allocation was completed the next step in the research strategy involved the selection of an appropriate survey questionnaire. In the following sections, the procedures taken to develop and distribute the questionnaire are discussed.

3.2 Questionnaire Development

Following a review of selected literature, published questionnaires were identified for possible use in this study (see D'Elia & Folse, 1978, p. 301-309; Harvey, 1983, p. 125-132; Parker & Sorensen, 1978, p. 152-166; Bible, 1970, p. 11-17). However, none was considered suitable for numerous reasons. First, all studies were concerned with only one health care discipline and, most often, investigated the attitudes and opinions of physicians. Second, many of the studies were designed to derive information from open-ended comments and did not lend themselves to computer analysis. Finally, researchers concentrated on one specific area of interest and did not simultaneously investigate attraction and retention decisions, the adequacy of health education, and the adequacy of upgrading. Therefore, it was decided to modify available, published questionnaires in order to meet the objectives of this research. Steps taken to develop the questionnaire are discussed in the following subsections.

3.2.1 Identification of Content

Initially, content areas considered relevant were identified from discussion with members of the Working Party on Education of the Conference on Rural Health Care. Published studies (D'Elia & Folse, 1978, p. 301-309; Bible, 1970, p. 11-17; Harvey, 1983, p. 125-132) and pertinent articles (Cooper, et al, 1975, p. 18-25; Eisenberg & Cantwell, 1976, p. 455-464) were also referenced.

The research instrument was subsequently designed to investigate the following content areas:

(a) The background characteristics of selected rural health personnel, i.e. age, birth place, professional training, career history.

(b) The current practise patterns and future career plans of selected health professionals.

(c) The adequacy of professional training in terms of requirements of work in rural areas, as perceived by those surveyed.

(d) The opinions and attitudes of those individuals surveyed regarding the status of continuing education in rural areas.

(e) The opinions and attitudes of those individuals surveyed regarding:

  (1) factors which influence health professionals to locate in rural communities;

(2) factors which are a source of satisfaction and dissatisfaction for health professionals in rural communities, and;

(3) factors which would potentially improve the work environment of health professionals in rural areas.

3.2.2 Questionnaire Format

When developing the questionnaire format the following factors were considered:

(a) The attractiveness, clarity and length of the questionnaire as factors which would affect the response rate (Woodward & Chambers, 1982, p. 9).

(b) The need to group items of information in a meaningful way and order items within groups with groups constructed on the basis of subject matter or a convenient frame of references (Levy & Lemenshow, 1980, p. 280).

(c) The facility with which data from the questionnaire could be coded and prepared for computer analysis (Levy & Lemenshow, 1980, p. 283).

Due to the diverse nature of information being sought the questionnaire was divided into seven sections corresponding to the content areas being investigated. These sections were background information, professional training, continuing education, attraction of health professionals to small communities, retention of health professionals in small communities, movement of health professionals out of small communities, improving working conditions in small communities, and general comments.

Most items in each section were presented in a close-ended statement with the respondent required to check the most appropriate response. For certain items response alternatives were simplified such that one set of responses applied to a set of variables pertaining to each of those items. Certain 'background information' items required the respondent to complete the question by filling in spaces provided.

Each section contained at least one item which was presented as an open-ended statement. The last section for general comments was developed to provide respondents with the opportunity to freely express their opinions on the subject matter covered by the questionnaire.

3.2.3 Selection of Questionnaire Items

Items and variables to be included in the draft questionnaire were selected based on the literature review, comments of the Working Party on Education of the Conference on Rural Health Care and the investigator's judgment. The number of variables included had to be sufficiently extensive to adequately investigate the content areas of the questionnaire yet reasonable in number so as to maintain an appropriate questionnaire length.

Due to the heterogeneous nature of the study population it was not feasible to develop one questionnaire appropriate for all health care disciplines. It was also not feasible, from an economic and time perspective, to develop a separate questionnaire for each discipline. Consequently, in order to limit the number of questionnaires and still accomodate the diversity of health professionals, the study population was combined into six strata comprised of physicians, dentists, registered nurses, rehabilitation medicine therapists, dieticians and hygienists/technologists (see Table VI). A draft questionnaire was developed for each group with the physician questionnaire (Appendix A) serving as a prototype from which to develop the remaining questionnaires with certain items and variables determined to be discipline-specific. Sections of the draft questionnaire which contained discipline-specific items were those on background information, professional training, attraction of health professionals to small communities, and retention of health professionals in small communities.

The addition and/or deletion of items from each questionnaire was based on an acceptable level of face validity. This acceptable level was determined by pretesting the draft questionnaire and is addressed in the next section.

3.2.4 Questionnaire Pretest

An acceptable level of face validity was sought by reviewing feedback from 1) individuals invited to examine the draft questionnaires, and 2) pretest respondents.

Individuals considered to be knowledgeable in research and potential users of the information generated by the research project were requested to review the draft questionnaire in terms of: how well the questionnaire would accomplish the study objectives; wording and sequencing of questions; instructions for responding; wording and appropriateness of response choices, and; general format and content. These individuals identified weaknesses and concerns regarding the wording of certain questions and instructions, as well as the general format and length of the questionnaire. The draft questionnaires were

TABLE VI

STRATIFICATION OF STUDY POPULATION FOR DEVELOPMENT OF QUESTIONNAIRES

Professional Groups	Stratum
Physicians	Physicians
Dentists	Dentists
Nurses	Nurses
Physiotherapists Occupational Therapists Speech Pathologists	Rehabilitation Medicine Therapists
Dental Hygienists Lab Technologists Medical Radiation Technologists Combined Laboratory/ X-ray Technicians	Hygienists/Technologists
Dietary Technicians Dieticians Nutritionists	Dieticians

modified in response to the feedback and revised questionnaires were subsequently distributed to pretest respondents to further strengthen the face validity.

Due to time constraints it was not possible to select pretest respondents from each health care discipline within the study population. Consequently, four health care professionals were selected who were considered to be representative of the study population. These individuals represented the medical, dentistry, nursing and rehabilitation medicine disciplines. Each participant was asked to complete the revised questionnaire and evaluate the length, clarity, and appropriateness, as well as to provide additional comments (Appendix B).

The average time taken to complete the revised questionnaires was 37.5 minutes with three respondents considering this 'too long' and one considering it 'about right'. In spite of this reported shortcoming, each respondent identified items they felt should be added to the questionnaire for their respective professions. The evaluation by the pretest respondents indicated that the length of the revised questionnaires was not totally acceptable, and could potentially limit the response rate. However, the investigator decided that streamlining the questionnaires would compromise a comprehensive investigation of the content areas. After assessing the comments of the pretest respondents it was determined that an adequate level of face validity was present and steps were taken to distribute the revised questionnaires (Appendix C) to the sample population.

3.3 Questionnaire Distribution and Data Collection

The following sections describe the questionnaire distribution, follow-up and data collection procedures employed in the study methodology.

3.3.1 Questionnaire Distribution

Questionnaires were distributed in late September, 1984 to a sample population of health professionals as described in Section 3.1.4. Each respondent received a questionnaire specific to his or her discipline. As the questionnaires were considered somewhat lengthy the investigation utilized several strategies in an attempt to increase the response rate. A cover letter emphasizing the importance of the study and ensuring anonymity was included with each questionnaire (Appendix D) along with a self-addressed business reply envelope. As well, a support letter specific to each health care discipline accompanied the questionnaires to reinforce the importance of the research and to add personalization to the study (Appendix D). Finally, each group of questionnaires was reproduced on different color paper as this factor has been thought to effect response rate (Woodward, et al., 1982, p. 24).

A cover page was attached to the front of each questionnaire defining 'rural Alberta' and requesting that only those individuals residing and working in 'rural Alberta' complete the questionnaire (Appendix D). This cover letter ensured that all respondents completing the questionnaire would meet the study-population criteria of practising and residing in 'rural Alberta' at the time of the study.

3.3.2 Follow-Up Procedure

One follow-up of nonrespondents was initiated two months after the initial questionnaire distribution (Appendix D). An accurate identification system for tracking who had responded to the survey and whose questionnaire was outstanding had been established. Each potential respondent had been assigned an identification number with the same number placed at the bottom of the first page of the questionnaire sent to that individual. Identification numbers and the corresponding individuals who had not responded were verified and follow-up questionnaires forwarded.

Non-respondents were given an additional two months in which to respond after which time no further responses were included in the data analyses.

3.4 Data Analyses

This section describes the data analyses strategies employed to attain the study objectives.

3.4.1 Descriptive Analyses

All responses to close-ended statements were coded and stored on a computer file from which to generate descriptive statistics. These statistics were used to undertake frequency analysis whereby the investigator summarized the number of responses in each of several categories of response alternatives. Frequency distributions were obtained for the following variables:

background characteristics;

professional training program characteristics and the importance of professional and technical skills;

attitudes towards continuing education including barriers limiting participation and preferences for methods of presenting upgrading programs;

location decision factors;

sources of satisfaction and dissatisfaction when working in rural communities, and;

factors potentially improving working conditions in rural areas.

Results of the frequency analysis are presented in the following chapter.

All responses to open-ended statements were grouped by content area and type of comment. Due to the extensive number of comments it was necessary to edit rather than present direct quotes. When the same type of comment appeared repeatedly it was stated only once with this repetition noted (Appendix E).

3.4.2 Interview of Selected Rural Health Professionals

When reviewing data collection methodologies it was initially decided to utilize the mail survey technique supplemented by some personal interviews. It was intended that the personal interviews would provide more indepth information on special areas of interest as identified by a preliminary review of responses and comments on the returned questionnaire.

In order to select a sub-sample of respondents for a personal interview each respondent was requested to indicate, on the questionnaire, his or her willingness to participate in an interview. From those consenting, it was intended to select interviewees from each sub-population by systematic random sampling. Unfortunately, due to time constraints, personal interviews were not undertaken and the survey research approach was limited to the mail questionnaire survey.

3.5 Summary

This chapter discussed the study methodology employed to develop a mail questionnaire survey and determine the sample population to which it would be distributed. First, the research strategy was discussed in terms of determining a survey research technique, defining a target and study population, and developing a sampling plan. Second, questionnaire development was described in relation to content, format, and pretesting of the questionnaire. Third, steps taken to distribute the questionnaire, follow-up non-respondents, and collect data were presented and, finally, the data analysis process was reviewed.

CHAPTER IV

ANALYSIS AND RESULTS

The purpose of this chapter is to present study results derived from the analysis of the six surveys as described in the previous chapter. The major components of the chapter comprise 1) an analysis of the survey response rate, 2) background characteristics of respondents, 3) a discussion of the adequacy of professional training in terms of requirements of work in rural areas, as perceived by respondents, 4) an examination of the opinions and attitudes of respondents regarding the status of continuing education in rural areas, 5) delination of factors which respondents perceive as influencing health professionals to locate in rural communities, 6) a discussion of factors which respondents consider to be sources of satisfaction in rural communities, 7) a discussion of factors which respondents consider to be sources of dissatisfaction in rural communities, 8) an examination of factors which respondents feel could potentially improve working conditions in rural areas, and 9) an overview of open-ended responses.

4.1 Survey Response Rate

Table VII provides information on the number of questionnaires returned, useable returns retained for analysis, the proportion each health group contributed to the total usable returns, and the response rate for each health group.

Of the 959 mail questionnaires distributed, a total of 757 were actually returned representing an initial overall response rate of 78.9

TABLE VII

SAMPLE RESPONSE RATE BY HEALTH CARE GROUP

Health Care Group	Number Sent (A)	Actual Returned (B)	*Not Applicable (C)	Usable Returns (D)	Proportion of Usable Returns (%)	Response Rate (100%x D/(A–C)
Physicians	180	124	17	97	16.0	59.5
Dentists	108	83	9	67	11.0	67.7
Registered Nurses	180	130	45	82	13.5	60.7
Rehabilitation Medicine Therapists	117	104	10	91	15.0	85.0
Hygienists/ Technologists	324	270	19	229	37.7	75.1
Dieticians	50	46	1	41	6.8	83.7
TOTAL	959	757	101	607	100.0	70.7

*Respondent did not reside and work in rural Alberta per cent. After a total of 150 questionnaires were eliminated from analysis, the resulting 607 usable returns represented a final overall response rate of 70.7 per cent. The 150 questionnaires eliminated from analysis included 101 returned from respondents who did not reside and work in rural Alberta, 27 that were incomplete, 14 of which were returned as the address was incorrect, and 8 that were received after the final cut-off date.

The overall response rate of 70.7 per cent was higher than the anticipated overall response rate of about a 50-60 per cent level. This high response rate suggests the respondents were interested in the study and concerned about health professionals in rural areas of Alberta. The 70.7 percent response rate is accounted for by the response rate for each health group, except for Registered Nurses, exceeding the anticipated response rate for each group. In contrast, the response rate of 60.7 per cent for Registered Nurses approximated the assumed response rate of 60 per cent. Examination of Table VII reveals that before questionnaires were eliminated from analysis the response rate for Registered Nurses was 72.2 per cent. Therefore, the response rate of 60.7 per cent may be attributed to the relatively high number of questionnaires eliminated from analysis, i.e., nonuseable returns rather than a low return rate.

Examination of Column (C) in Table VII reveals that a high number of nonusable returns (45 of 48) for Registered Nurses is primarily accounted for by non-applicable questionnaires, i.e. questionnaires which were not completed and were returned as respondents did not reside and work in rural Alberta. This situation may have occurred as the target population for Registered Nurses was accessed through a computerized sampling frame which did not have the capacity to determine whether each individual in the sample population practised and resided in rural Alberta. On the otherhand, the investigator personally reviewed sampling frames for all other health groups and was able to reasonably ensure that only a limited number of questionnaires would be returned by individuals who did not reside and work in rural Alberta.

4.2 Respondents' Background Characteristics

To facilitate discussion, respondents' background characteristics have been categorized into socio-demographic characteristics, professional training, current practise patterns, and future career plans.

4.2.1 Socio demographic Characteristics

Table VIII provides a review of the relative frequency of responses on five socio-demographic variables.

Sex

The majority of physicians and dentists (88.7% and 97%, respectively) were male, whereas the majority of respondents in the remaining health groups were female.

Age Category

In examining the respondents' age categories, Table VIII reveals that the Physician sample was relatively evenly distributed across all age categories, excluding the 25 or younger age group. In contrast, the

TABLE VIII

Respondents' Characteristics by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
1. Sex:						
Male	86(88.7)	65(97.0)	2(2.4)	6 (6.6)	20(8.7)	1(2.4)
Female	11(11.3)	2(3.0)	80(97.6)	85(93.4)	209(91.3)	40(97.6)
TOTAL	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
2. Age Category:						
25 or younger	-	3(4.5)	6(7.3)	14(15.4)	50(21.8)	9(22.0)
26 to 35	23(23.7)	33(49.3)	38(46.3)	47(51.6)	110(48.0)	22(53.7)
36 to 45	25(25.8)	17(25.4)	25(30.5)	24(26.4)	56(24.5)	8(19.5)
46 to 55	23(23.7)	6(9.0)	9(11.0)	6(6.6)	12(5.2)	1(2.4)
56+	26(26.8)	8(11.9)	4(4.9)	-	1(0.4)	1(2.4)
TOTAL	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
3. Marital Status						
3a. Marital Status (Present):						
Single	5(5.2)	12(17.9)	13(17.1)	23(26.4)	53(23.6)	16(43.2)
Married	92(94.8)	55(82.1)	63(82.9)	64(73.6)	172(76.4)	21(56.8)
TOTAL:	97(100.0)	67(100.0)	76(100.0)	87(100.0)	225(100.0)	37(100.0)

TABLE VIII (Cont'd)

Respondents' Characteristics by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
3b. Marital Status (Initial):						
Single	16(16.5)	25(37.3)	17(21.0)	31(34.1)	107(49.1)	20(50.0)
Married	81(83.5)	42(62.7)	64(79.0)	60(65.9)	120(52.9)	20(50.5)
TOTAL	97(100.0)	67(100.0)	81(100.0)	91(100.0)	227(100.0)	40(100.0)
3c. Marital Status (First):						
Single	21(21.6)	25(37.3)	37(46.2)	41(45.1)	141(62.4)	23(57.5)
Married	76(78.4)	42(62.7)	43(53.8)	50(54.9)	85(37.6)	17(42.5)
TOTAL	97(100.0)	67(100.0)	80(100.0)	91(100.0)	226(100.0)	40(100.0)
4. Place of Rearing of Respondent						
4.a Years in Less than 5 000:						
1 or less	53(54.6)	30(44.8)	21(25.6)	55(60.4)	71(31.0)	19(46.3)
2 to 5	3(3.1)	5(7.5)	3(3.6)	5(5.5)	12(5.3)	1(2.4)
6 to 10	8(8.3)	5(7.5)	7(8.5)	6(6.6)	30(13.0)	6(14.6)
11 +	33(34.0)	27(40.3)	51(62.2)	25(27.5)	116(50.7)	15(36.6)
TOTAL	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)

TABLE VIII (Cont'd)

Respondents' Characteristics by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
4b. Years in 5 000 to 30 000:						
1 or less	79(81.5)	60(89.6)	74(90.2)	67(73.6)	195(85.1)	33(80.4)
2 to 5	3(3.0)	-	1(1.2)	6(6.6)	11(4.8)	2(4.8)
6 to 10	5(5.1)	3(4.5)	2(2.4)	6(6.6)	9(3.8)	1(2.4)
11+	10(10.3)	4(6.0)	5(6.1)	12(13.2)	14(6.1)	5(12.2)
TOTAL	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
4c. Years in More than 30 000:						
1 or less	52(53.6)	33(49.3)	61(74.4)	45(49.5)	155(67.7)	26(63.4)
2 to 5	6(6.3)	5(7.5)	5(4.4)	4(4.4)	19(8.2)	2(4.8)
6 to 10	1(1.0)	3(4.5)	2(2.4)	5(5.5)	8(3.5)	1(2.4)
11+	38(39.2)	26(38.8)	14(17.1)	37(40.7)	47(20.5)	12(29.3)
TOTAL	97(100.0)	67(100.0)	82(100.0)	91(100.00)	229(100.0)	41(100.0)
5. Place of Rearing of Spouse:						
5a. Spouse in Less than 5 000:						
1 or Less	51(55.4)	29(52.7)	11(17.5)	24(37.5)	43(25.0)	8(38.1)
2 to 5	3(3.3)	3(5.5)	1(1.6)	3(4.7)	9(5.2)	1(4.8)
6 to 10	5(5.4)	3(5.5)	4(6.3)	7(10.9)	21(12.2)	2(9.5)
11+	33(35.9)	20(36.7)	47(74.6)	30(46.9)	99(57.6)	10(47.6)
TOTAL	92(100.0) 5(N/A)	55(100.0) 12(N/A)	63(100.0) 19(N/A)	64(100.0) 27(N/A)	172(100.0) 57(N/A)	21(100.0) 20(N/A)

TABLE VIII (Cont'd)

Respondents' Characteristics by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
5b. Spouse in 5 000 to 30 000:						
1 or less	73(79.3)	46(83.6)	55(87.3)	49(76.6)	142(82.6)	16(76.2)
2 to 5	2(2.2)	1(1.8)	1(1.6)	4(6.3)	7(4.1)	-
6 to 10	4(4.4)	-	2(3.2)	1(1.6)	4(2.3)	2(9.5)
11+	13(14.1)	8(14.5)	5(7.9)	10(15.6)	19(11.0)	3(14.3)
TOTAL	92(100.0) 5(N/A)	55(100.0) 12(N/A)	63(100.0) 19(N/A)	64(100.0) 27(N/A)	172(100.0) 57(N/A)	2(100.0) 20(N/A)
5c. Spouse in more than 30 000:						
1 or less	53(57.6)	31(56.4)	49(77.8)	42(65.6)	133(77.3)	14(66.7)
2 to 5	2(2.2)	1(1.8)	3(4.8)	4(6.3)	13(7.6)	2(9.5)
6 to 10	2(2.2)	2(3.6)	1(1.6)	3(4.7)	8(4.7)	-
11+	35(38.0)	21(38.2)	10(15.9)	15(23.4)	18(10.5)	5(23.8)
TOTAL	92(100.0) 5(N/A)	55(100.0) 12(N/A)	63(100.0) 19(N/A)	64(100.0) 27(N/A)	172(100.0) 57(N/A)	21(100.0) 20(N/A)

largest portion of respondents in all other health groups were between the ages of twenty-six and thirty-five.

Marital Status

The majority of the survey sample were married at the time of the study. Physicians had the highest portion of married respondents (94.8%) and Dieticians had the lowest (56.8%).

The majority of the survey sample were also married when they began working in their present location (initial marital status). Again, physicians had the highest portion of married respondents (83.5%) and the Dieticians the lowest (50.0%). When comparing 'present marital status' to 'initial marital status', Table VIII shows that for each health group, more respondents were married at the time of the study than were married when they began working in this present location. The majority of Physicians (78.4%), Dentists (62.7%), Registered Nurses (53.8%) and Rehabilitation Medicine Therapists (54.9%) were married when they first began working in rural communities (first marital status). In contrast, the majority of Hygienists/Technologists and Dieticians were single when they first began working in 'rural' communities (62.4% and 57.5%, respectively). When comparing 'first marital status' to 'present marital status' across the survey sample there was a 24% increase in married respondents from the time they first began working in 'rural' areas to the time of the study. The greatest increase was 38% for Hygienists/Technologists and the smallest increase was 17% for Physicians.

Respondents' Place of Rearing

When examining the length of time, between the ages of 7 and 18, that respondents resided in 'rural' communities (less than 30,000 residents) versus 'urban' communities (more than 30,000 residents), Table VIII reveals that the majority of the survey sample spent most of their time (6 years or more) residing in a 'rural' community. A summarization of the data (see Table IX) shows that 58.9% of Physicians, 57.3% of Dentists, 80.2% of Registered Nurses, 53.8% of Rehabilitation Medicine Therapists, 75.4% of Hygienists/Technologists, and 67.5% of Dieticians resided in a 'rural' area for the major portion of the years between the ages of 7 and 18.

Spouses' Place of Rearing

When examining the length of time, between the ages of 7 and 18, that respondents' spouses resided in 'rural' communities (less than 30,000 residents) versus 'urban' communities (more than 30,000 residents), Table VIII shows that the major portion of the spouses in each health group spent most of their time (6 years or more) residing in a 'rural' community. A summarization of the data in Table X reveals that 59.8% of Physician spouses, 57.4% of Dentist spouses, 84.1% of Registered Nurse spouses, 72.7% of Rehabilitation Medicine Therapist spouses, 84.6% of Hygienist/Technologist spouses, and 77.3% of Dietician spouses resided in a 'rural' area for the major portion of the years between the ages of 7 and 18.

In summation, 1) the majority of the survey sample, excluding physicians, were between the ages of 26 and 35, 2) the majority of the survey sample were married when they first began working in 'rural'

TABLE IX
Respondents' Place of Rearing by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
6+ Years in a Community of Less than 30 000 Residents	56(58.9)	39(57.3)	65(80.2)	49(53.8)	169(75.4)	27(67.5)
6+ Years in a Community of More than 30 000 Residents	39(41.1)	29(42.6)	16(19.8)	42(46.2)	55(24.6)	13(32.5)
*Total	95(100.0)	68(100.0)	81(100.0)	91(100.0)	224(100.0)	40(100.0)

*Total for each health care group may not equal the number of analyzed usable returns for each group as some respondents may not have completed the question correctly.

TABLE X

Spouses' Place of Rearing by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
6+ Years in a Community of Less than 30 000 Residents	55(59.8)	31(57.4)	58(84.1)	48(72.7)	143(84.6)	17(77.3)
6+ Years in a Community of more than 30 000 Residents	37(40.2)	23(42.6)	11(15.9)	18(27.3)	26(15.4)	5(22.7)
*Total	92(100.0)	54(100.0)	69(100.0)	66(100.0)	169(100.0)	22(100.0)

*Total for each health care group may not equal the total number of analyzed usable returns for each group as some respondents may not have completed the question correctly.

communities and the portion of married respondents increased from the time that they began working in 'rural' communities to the time of the study, and 3) the majority of respondents and their spouses resided in 'rural' communities for the major portion of years (6 years or more) between the ages of 7 and 18.

Information about responses to professional training variables is presented in Tables XI - XVI with the data discussed in the following section.

4.2.2 Professional Training

Tables XI - XV present information on the professional status of each health groups. Table XVI presents the frequency distribution of responses on three professional training variables which include the location in which respondents received the major portion of their professional training, the respondents' age group when their professional status was obtained, and the year in which respondents graduated.

Professional Status

Table XI shows that, of 97 Physician respondents, 17.5% were certified family physicians, 29.9% were other certified specialists, and 46.4% were M.D.s or M.B.s. Of the 29 certified specialist respondents, general surgery was most frequently reported as the area of specialization.

All Dentist respondents (67) were in general practise with no respondent reporting to be a specialist.

As shown in Table XII, the Registered Nurses' level of professional status which was most frequently reported was that of an RN from

TABLE XI

Physician's Professional Status

Actual Number (Proportion %)

Family Physician	17 (17.5)
Certified Specialist	
Plastic Surgery	2
General Surgery	8 (8.2)
Internal Medicine	5 (5.2)
Psychiatry	2
Orthopedics	1
Pediatrics	1
Obstetrics/Gynecology	1
Anaesthetics	2
Not Specified	7 (7.2)
M.D. or M.B.	45 (46.4)
Other	6 (6.2)
Total	97 (100.0)

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TABLE XII

Registered Nurses' Professional Status

Actual Number (Proportion %)

RN (2 Year Progam)	16 (19.5)
RN (3 Year Progam)	52 (63.4)
Public Health/Occupational Health Diploma	1
BScN (Basic)	5 (6.1)
BScN (Post-Basic)	5 (6.1)
Masters Degree	-
Other	3
Total	82 (100.0)

a three-year program (63.4%). The second most frequently reported professional status was an RN from a two-year program (19.5%), with a basic and post-basic baccalaureate each representing 6.1% of the total.

The Rehabilitation Medicine Therapists group was comprised of Physiotherapists (48), Occupational Therapists (9), and Speech Pathologists (34). An examination of Table XIII reveals that most Physiotherapists and Occupational Therapists had obtained diploma status (60.4% and 66.7%, respectively). In contrast, the majority of Speech Pathologists (61.8%) had attained an undergraduate degree status.

Table XIV shows that there were 229 respondents in the Hygienists/Technologists group. Laboratory Technologists represented 32.3% of the group, Combined Laboratory/X-ray Technicians (27.5%) were the second largest sub-group, Medical Radiation Technologists (25.3%) the third largest, and Dental Hygienists (14.4%) represented the smallest portion of this group.

As shown in Table XV, the Dieticians group was comprised of 48.8% Dieticians, 43.9% Dietary Technicians and 7.3% Nutritionists.

Location of Professional Training

The majority of the survey sample received the major portion of their professional training in Alberta. When examining each health group, Table XVI shows that the Hygienists/Technologists group had the highest portion of respondents trained in Alberta and the Physicians group the lowest portion (72.9% and 43.3%, respectively). The Physicians group had the highest proportion (37.1%) of respondents receiving the major portion of their training in a country other than Canada.

TABLE XIII

Rehabilitation Medicine Therapists' Professional Status

Actual Number (Proportion %)

	Physiotherapist	Occupational Therapist	Speech Pathologist
Diploma	29(60.4)	6(66.7)	1
Undergraduate	12(25.0)	3(33.3)	21(61.8)
Graduate	7(14.6)	-	12(35.3)
Total	48(100.0)	9(100.0)	34(100.0)

TABLE XIV

Hygienists/Technologists' Professional Status

Actual Number (Proportion %)

Dental Hygienists	33(14.4)
Laboratory Technologists	74(32.3)
Medical Radiation Technologists	58(25.3)
Combined Laboratory/X-ray Technicians	64(27.9)
Total	229(100.0)

TABLE XV

Dieticians' Professional Status

Actual Number (Proportion %)

Dieticians	20(48.8)
Nutritionists	3
Dietary Technicians	18(43.9)
Total	41(100.0)

Training Age Category

The majority of the survey sample was 25 or younger when they completed their professional education, with the Hygienist/Technologists having the largest number of respondents (95.2%) in this age category and the Physicians the smallest number (21.6%). When examining each sub-group, Table XVI reveals that each individual group also had the largest number of their respondents receiving their professional education at the age of 25 or younger, except for Physicians. The majority of Physicians (62.9%) completed their professional education between the ages of twenty-six and thirty-five.

Year of Graduation

The respondents' year of graduation ranged from 1916 (Physicians, Registered Nurses) to 1984 (all groups); the average year of graduation for the survey sample was 1972. Physicians, on average, reported the most years since graduation (18) and Dieticians, on average, the fewest (9). On average, Registered Nurses reported 16 years since graduation, Hygienists/Technologists and Dentists reported 12 years, and Rehabilitation Medicine Therapists reported 11 years since graduation.

In summation, the majority of the respondents received the major portion of their professional training in Alberta and were 25 or younger when they completed their professional education. The respondents' average number of years since graduation was 13, with a range from 1 to 69 years.

TABLE XVI

Respondents' Professional Training by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
1. Training Location						
Alberta	42(43.3)	52(77.6)	56(69.1)	50(54.9)	167(72.9)	28(68.3)
Other Province	19(19.6)	12(17.9)	18(22.2)	16(17.6)	53(23.1)	13(31.7)
Other Country	36(37.1)	3(4.5)	7(8.6)	25(27.5)	9(3.9)	-
Total	97(100.0)	67(100.0)	81(100.0)	91(100.0)	229(100.0)	41(100.0)
2. Training Age category						
25 or younger	21(21.6)	39(58.2)	70(85.4)	75(82.4)	218(95.2)	33(80.5)
26 to 35	61(62.9)	21(31.3)	10(12.2)	12(13.2)	7(3.1)	7(17.1)
36 to 45	13(13.4)	6(9.0)	1(1.2)	3(3.3)	3(1.3)	-
46+	2(2.1)	1(1.5)	1(1.2)	1(1.1)	1(0.4)	1(2.4)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
3. Year of Graduation						
1959 or earlier	16(26.8)	7(10.5)	14(17.1)	4(4.4)	10(4.3)	1(2.4)
1960's	27(27.8)	9(13.4)	19(23.2)	17(18.7)	5(12.2)	5(12.2)
1970's	31(32.0)	32(47.8)	38(46.3)	47(51.6)	18(43.9)	18(43.9)
1980's	13(13.4)	19(28.4)	11(13.4)	23(25.3)	54(23.6)	17(41.5)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)

Response to current practise pattern variables shall be discussed in the next section with the results of analyses presented in Tables XVII - XIX.

4.2.3 Current Practise Patterns

Table XVII presents the relative frequency of responses on seven current practise pattern variables which include characteristics of the respondents' practise and the communities in which they work. Table XVIII overviews the type of procedures performed by Physician respondents and Table XIX summarizes the on-call hours per week reported by Physicians.

Employment Status

As expected, the vast majority of Physicians and Dentists were self-employed (90.7% and 91.0%, respectively). For all other groups, the majority of respondents were employed by another individual or institution.

Type of Practise

Table XVII reveals that the health groups comprising the survey sample worked under varied organizational structures. Most Physicians (70.1%) practised in a group/clinic setting, whereas the portion of dentists practising in a group/clinic setting (47.8%) was comparable to the portion practising in a solo/private setting (49.3%). Most Registered Nurses, Hygienists/Technologists, and Dieticians worked in active treatment hospitals (62.2%, 78.2% and 82.9%, respectively). In contrast, the major portion of Rehabilitation Medicine Therapists

TABLE XVII

Respondents' Current Practise Patterns by Health Care Group,
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
1. Employment Status:						
self-employed	88(90.7)	61(91.0)	-	14(15.4)	1(0.4)	-
employed by others	4(4.1)	3(4.5)	81(98.8)	74(81.3)	24(97.8)	41(100.0)
Other	5(5.2)	3(4.5)	1(1.2)	3(3.3)	4(1.7)	-
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
2. Type of Practice:						
Solo/Private	23(23.7)	33(49.3)	-	6(6.6)	6(2.6)	-
Group Treatment	68(70.1)	32(47.8)	4(4.9)	9(9.9)	10(4.4)	-
Active Treatment	-	-	51(62.2)	23(25.3)	179(78.2)	34(82.9)
Auxiliary Hospital	-	-	2(2.4)	4(4.4)	5(2.2)	-
Health Unit	3(3.1)	1(1.5)	13(15.9)	40(44.0)	21(9.2)	3(7.3)
Home Care Services	-	-	2(2.4)	7(7.7)	-	-
Other	3(3.1)	1(1.5)	10(12.2)	2(2.2)	8(3.5)	4(9.8)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
3. Work Hours/Week:						
Less than 20	6(6.2)	4(6.0)	29(36.3)	15(16.5)	53(24.8)	5(12.2)
21 to 30	5(5.2)	3(4.5)	15(18.8)	11(12.1)	18(8.4)	3(7.3)
31 to 40	17(17.5)	37(55.2)	31(38.7)	47(51.6)	123(57.5)	29(70.7)
41 to 50	20(10.6)	20(29.9)	4(5.0)	12(13.2)	17(7.9)	4(9.8)
51+	49(50.5)	3(4.5)	1(1.2)	6(6.6)	3(1.4)	-
Total	97(100.0)	67(100.0)	80(100.0)		214(100.0)	41(100.0)
4. Years of Work in Community:						
5 or less	34(35.0)	34(50.8)	42(51.9)	62(71.3)	136(59.6)	31(75.6)
6 to 15	31(31.9)	22(32.8)	31(38.2)	25(28.7)	77(33.7)	9(22.0)
16+	32(33.0)	11(16.5)	8(9.9)	-	15(6.6)	1(2.4)
Total	97(100.0)	67(100.0)	81(100.0)	87(100.0)	228(100.0)	41(100.0)

TABLE XVII (Cont'd)

Respondents' Current Practise Patterns by Health Care Group,
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
5. Size of Community:						
under 3 000 residents	21(21.6)	13(19.4)	28(35.5)	20(22.0)	50(22.6)	13(31.7)
3 000 to 5 000 residents	36(37.1)	23(34.3)	29(36.7)	34(37.4)	98(44.3)	18(43.9)
5 000 to 10 000 residents	25(25.7)	19(28.4)	8(10.1)	24(26.4)	51(23.1)	9(21.9)
10 000+ residents	15(15.4)	12(17.9)	14(17.8)	13(14.3)	22(10.0)	1(2.4)
Total	97(100.0)	67(100.0)	79(100.0)	91(100.0)	221(100.0)	41(100.0)
6. Closest City:						
Ft. McMurray	-	-	1(1.2)	-	-	-
Grande Prairie	11(11.3)	4(6.0)	9(11.0)	3(3.3)	10(4.4)	1(2.4)
Edmonton	39(40.2)	40(59.7)	30(36.6)	49(53.8)	135(59.5)	21(51.2)
Red Deer	14(14.4)	3(4.5)	17(20.7)	13(14.3)	27(11.9)	6(14.6)
Calgary	14(14.4)	8(11.9)	10(12.2)	15(16.5)	23(10.1)	5(12.2)
Lethbridge	17(17.5)	10(14.9)	12(14.6)	8(8.8)	31(13.7)	6(14.6)
Medicine Hat	2(2.1)	2(3.0)	3(3.7)	3(3.3)	1(0.4)	2(4.9)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	227(100.0)	41(100.0)
7. Distance from Closest City:						
1 to 60 km	23(23.7)	16(24.3)	30(38.4)	20(22.5)	64(28.6)	12(30.8)
61 to 150 km	51(52.6)	28(42.5)	33(42.3)	42(47.2)	92(41.0)	13(33.4)
151 to 250 km	14(14.4)	16(24.2)	12(15.4)	18(20.3)	53(23.7)	9(23.1)
251+ km	9(9.3)	6(9.1)	3(3.9)	9(10.1)	15(6.7)	5(12.8)
Total	97(100.0)	66(100.0)	78(100.0)	89(100.0)	224(100.0)	39(100.0)

TABLE XVIII

Procedures Performed by Physicians

Actual Number (Proportion %)

	MINOR SURGERY	DELIVERIES	ABDOMINAL SURGERY	GENERAL/SPINAL ANAESTHETICS	CLOSED REDUCTION OF FRACTURES	ENDOSCOPY	OTHERS
Applicable	77(79.4)	59(60.8)	30(30.9)	38(39.8)	61(62.9)	28(28.9)	20(20.6)
Not Applicable	20(20.6)	38(39.2)	67(69.1)	59(60.2)	36(37.1)	69(71.1)	77(79.4)
Total	97(100.0)	97(100.0)	97(100.0)	97(100.0)	97(100.0)	97(100.0)	97(100.0)

(44.0%) worked in health units, with 25.3% of this group in active treatment hospitals.

Table XVIII shows the type of procedures performed by Physicians in their practises. Three of the six procedures listed were reported to be performed by the majority of the respondents, i.e., minor surgery (79.4%), deliveries (60.8%), and closed reduction of fractures (62.9%). The remaining procedures (abdominal surgery including caesarian, general/spinal anaesthetics and endoscopy) were performed by only 30.9%, 39.8%, and 28.9% of the respondents respectively.

Work Hours Per Week

The respondents work hours per week (Table XVII) ranged from one hour for Registered Nurses, Hygienists/Technologists, and Dieticians to 90 hours for Physicians; the average number of work hours per week for the survey sample was 36.6 hours. Physicians, on average, reported the greatest number of work hours per week (50.9 hours) and Registered Nurses, on average the lowest (27.8 hours). On average, Dentists reported a 39.3 hour work week, Rehabilitation Medicine Therapists a 34.5 hour work week, Hygienists/Technologists a 31.7 hour work week, and Dieticians a 35.5 hour work week.

Table XIX shows the on-call hours per week reported by Physicians. On-call hours per week ranged from 0 hours to 99 hours, with the major portion of Physicians (36.9%) on-call between 25 to 48 hours per week. The average number of on-call hours per week for Physicians was 42.5 hours.

TABLE XIX

Physician On-Call Hours Per Week

Actual Number (Proportion %)

Less than 12 hours	6(7.1)
13 to 24 hours	25(29.8)
25 to 48 hours	31(36.9)
49+ hours	2(26.2)
Total	84(100.0)

Years of Work in Community

The number of years respondents had been working in their respective communities ranged from 0.1 years to 43 years; the average number of years for the survey sample was 7.4. Physicians, on average, reported the longest period of time in their communities (13.2 years) and Rehabilitation Medicine Therapists and Dieticians, on average, reported the shortest period of time (4.3 years). Dentists had been residing in their present locations for an average of 8.7 years, Registered Nurses an average of 7.4 years, and Hygienists/Technologists for an average of 6.2 years.

Size of Community

The majority of the survey sample worked in a community of between 3,000 and 5,000 residents. When examining each group, Table XVII shows that the major portion of respondents in each group also worked in a community of between 3,000 and 5,000 residents.

Closest City

The majority of the survey sample worked in a community which was closest, in driving kilometers, to Edmonton. The major portion of each group also reported Edmonton as the closest city to their work location, with Dentists having the largest portion (59.7%) and Registered Nurses the smallest portion (36.6%).

Distance from Closest City

The majority of the survey sample worked in a community which was between 61 and 150 kilometers from the closest city. The major portion of respondents in each group was also between 61 and 150 kilometers from the closest city, with Physicians having the highest portion (52.6%) and Dieticians the lowest (33.4%).

In summation, most physicians and Dentists, as expected, were self-employed, whereas most respondents in the other groups were employed by another individual or organization. The type of organizational structure under which the survey sample worked varied across groups, with most respondents in three of the six groups (Registered Nurses, Hygienists/Technologists, and Dieticians) working in active treatment hospitals. The respondents' average number of work hours per week was 36.6 hours and Physicians, on average, reported 42.5 on-call hours per week. On average, the survey sample had been working in present locations for 7.4 years, with Physicians reporting the longest average period of time of 13.2 years. Most respondents were working in a community of between 3,000 and 5,000 residents and most were closest, in driving kilometers, to Edmonton. The majority of the survey sample were between 61 and 150 kilometers from the closest city.

Information about the responses to future career plans is presented in Table XX and discussed in the following section.

4.2.4 Future Career Plans

Table XX presents the relative frequency of responses on three future career plan variables including the probability of respondents remaining in their community; if planning to relocate, when respondents intended to move, and; to what size of community respondents planned to move.

TABLE XX

Respondents' Future Career Plans by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
1. Staying in Community:						
Almost sure to stay	61(63.5)	30(60.6)	43(53.1)	39(43.8)	121(55.0)	15(37.5)
Probably will stay	9(9.4)	14(21.1)	20(24.7)	10(11.2)	51(23.2)	7(17.5)
Uncertain	9(9.4)	5	9(11.1)	10(11.2)	19(8.6)	8(20.0)
Likely to move	8(8.3)	5	7	18(20.2)	19(8.6)	5(12.2)
Certain to move	9(9.4)	2	2	12(13.5)	10(4.5)	5(12.2)
Total	96(100.0)	66(100.0)	81(100.0)	89(100.0)	220(100.0)	40(100.0)
2. Move out of Community:						
1 or less years	8	4	8	20(71.4)	17(50.0)	8
2 years	4	-	1	4	13(38.2)	1
3 years	3	1	1	2	2	1
5 years	2	3	2	2	2	-
Total	17	8	12(100.0)	28(100.0)	34(100.0)	10
3. Community Size of Moving:						
Less than 30 000 residents	8	5	8	11(35.5)	15(48.4)	4
30 000+ residents	9	3	4	20(65.5)	16(51.6)	7
*Total	17	8	12	31(100.0)	31(100.0)	11

*Each health care group total may not be equal as some respondents may have completed only one of the two questions.

Staying in Community

Overall, most respondents were 'almost sure to stay' in their present location for the near future, with a large majority of Physicians and Dentists in this category (63.5% and 60.6%, respectively). Of the few respondents who reported that they were 'likely or certain to move', Rehabilitation Medicine Therapists had the largest proportion (33.7%).

Move-Out of Community

For respondents who were 'likely or certain to move' in the near future, the time of moving ranged from 0.1 years to 5 years; the average time in which this group planned to move was 1.6 years.

Community Size of Moving

Of those respondents who were 'likely or certain to move' in the near future, most planned to move to a community of more than 30,000 residents. When examining each group, Table XX shows that most respondents in each group also planned to move to a community of more than 30,000 residents, except for Dentists and Registered Nurses. For these two groups, 5 Dentists and 8 Registered Nurses who planned to move reported relocation to a community of less than 30,000 residents.

In summation, most of the survey sample were 'almost sure to stay' in their present location for the near future. For those respondents who were planning to move, the average time of moving was 1.6 years and, for most, to a community of more than 30,000 residents. Reasons that respondents gave for moving have been edited and can be found in Appendix E. An overview of these comments suggests that relocation for Physicians and Dentists was primarily related to professional/work matters. In contrast, relocation for all other groups was primarily related to personal matters, and, in particular, to the spouses' job situation.

The following section shall discuss results derived from analyzing questionnaire responses regarding the perceived adequacy of professional training in terms of requirements of work in rural areas.

4.3 Perceived Adequacy of Professional Training

Information regarding the perceived adequacy of professional training in terms of requirements of work in rural areas was solicited in relation to 1) perceptions of professional training programs, 2) personal training in and/or exposure to selected professional/ technical skills, and 3) the perceived importance of training in and/or exposure to selected professional/technical skills in order to adequately prepare individuals for work in rural areas. The distributional characteristics of these three aspects of professional training are presented in this section. As well, the respondents' perceived importance of certain professional/technical skills is compared to their training in and/or exposure to such skills.

4.3.1 Professional Training Programs

Table XXI presents the relative frequency of responses on six professional training program variables which include differences between rural/urban practice, exposure to rural practice experiences, and curriculum adequacy.

TABLE XXI

Respondents' Perceptions of Professional Training Programs by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
1. Difference Between Rural/Urban Practice:						
Very different	40(41.2)	4(6.0)	10(12.2)	17(18.7)	33(14.4)	10(24.4)
Some difference	54(55.7)	45(67.2)	68(82.9)	67(73.6)	166(72.5)	28(68.3)
No difference	2	16(23.9)	3	6(6.6)	19(8.3)	2
Undecided	1	2	1	1	11(4.8)	1
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
2. Personal Rural Exposure:						
No time	57(58.8)	33(49.3)	58(70.7)	75(82.4)	131(57.2)	27(65.9)
1 month or less	13(13.4)	22(32.8)	10(12.2)	1	32(14.0)	7(17.0)
Between 1 and 2 months	16(16.5)	6(9.0)	9(11.0)	6(6.6)	22(9.6)	2
longer than 2 months	11(11.3)	6(9.0)	5(6.1)	9(9.9)	44(19.2)	6(14.6)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
3. Benefit of rural Exposure:						
Very beneficial	62(63.9)	28(41.8)	46(56.1)	53(58.2)	126(55.0)	28(68.3)
Slightly beneficial	25(25.8)	16(23.9)	19(23.2)	21(23.1)	45(19.7)	10(24.4)
No effect	4(4.1)	10(14.9)	2	6(6.6)	34(14.8)	1
Undecided	6(6.2)	13(19.4)	15(18.3)	11(12.1)	24(10.4)	2
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
4. Personal Curriculum Adequacy:						
Adequate for all work	10(10.3)	13(19.4)	9(11.0)	4(4.4)	56(24.5)	2
Adequate for most work	57(58.8)	42(62.7)	54(65.9)	54(59.3)	130(56.8)	23(56.1)
Adequate for some work	24(24.7)	6(9.0)	16(19.5)	28(30.8)	42(18.3)	16(39.0)
Totally inadequate	5(5.2)	5(7.5)	2	4(4.4)	1	-
Undecided	1	1	1	1	-	-
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)

TABLE XXI (Cont'd)

Respondents' Perceptions of Professional Training Programs by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS
5. Present Curriculum Adequacy:						
Adequate for all work	1	9(13.4)	1	-	35(15.3)	4(9.8)
Adequate for most work	29(29.9)	29(43.3)	28(34.1)	32(35.2)	99(43.2)	15(36.6)
Adequate for some work	28(28.9)	7(10.4)	27(32.9)	19(20.9)	37(16.2)	9(22.0)
Totally inadequate	8(8.2)	-	1	4(4.4)	5	1
Undecided	31(32.0)	22(32.8)	25(30.5)	36(39.6)	53(23.1)	12(29.3)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)
6. Altering Curriculum:						
Curiculum content	8(12.1)	9(23.7)	3	5(9.4)	27(18.6)	2
Rural exposure	10(15.2)	8(21.1)	18(31.6)	16(30.2)	29(20.0)	6(26.1)
Curriculum content and rural exposure	38(57.6)	10(26.3)	31(54.4)	25(47.2)	60(41.4)	12(52.2)
No change	3(4.5)	3(7.9)	-	1	9(6.2)	-
Don't know	7(10.6)	8(21.1)	5(8.8)	6(11.3)	20(13.8)	7(13.0)
Total	66(100.0)	38(100.0)	57(100.0)	53(100.0)	145(100.0)	23(100.0)

Differences Between Rural/Urban Practice

The majority of the survey sample (75.5%) reported that the professional skills required for, and the demands of, rural health care were 'different in some aspects' from those of urban health care. Of the respondents who reported the skills and demands to be 'very different', Dentists had the smallest portion (6.0%) and Physicians the largest (41.2%). Relatively few respondents (7.9%) reported 'no difference' between rural/urban skills and demands.

Personal Rural Exposure

As expected, the majority of the survey sample (62.8%) had not been exposed to health care in a rural setting during their professional education. When examining each group, Table XXI shows that, with the exception of Dentists, the majority of respondents in each group also had spent no training time in a rural setting, with Rehabilitation Medicine Therapists having the highest portion (82.4%). In contrast, the portion of Dentists who had not been exposed to rural health care during training (49.3%) was comparable to the portion who had been exposed to rural practice (50.7%).

Benefit of Rural Exposure

Most of the respondents (56.5%) agreed that a rural practice experience would be 'very beneficial' in preparing individuals for work in a rural setting. The majority of respondents in each group, except for Dentists, responded in a similar manner with group portions ranging from 55% for Hygienists/Technologists to 68.3% for Dieticians. In contrast, only 41.8% of Dentists reported a 'very beneficial' effect of rural exposure. When examining the frequency of responses on rural exposure being both 'very and slightly beneficial', Table XXI reveals that a large majority of the survey sample (78.9%) perceived some level of benefit while only 9.4% of the survey sample suggested that rural practice experience would have 'no effect'.

Personal Curriculum Adequacy

Most respondents in each group reported that, when they received their professional education, the curriculum was adequate in preparing them for 'most work demands' in a small community. In contrast, only 15% of the total survey sample reported their curriculum as adequate for 'all work demands' in rural areas and a very small portion of respondents (3%) reported their curriculum as 'totally inadequate'.

Present Curriculum Adequacy

The frequency of responses on the adequacy of present curriculums in preparing individuals for work in small communities varied across groups. The major portion of Dentists (43.3%), Registered Nurses (34.1%), Hygienists/Technologists (43.2%), and Dieticians (36.6%) were of the opinion that present curriculums adequately prepared individuals for 'most work demands' encountered in rural areas; whereas, the major portion of Physicians and Rehabilitation Medicine Thereapists were undecided (32% and 39.6% respectively). A summary of responses reveals that the majority of respondents (59.1%) perceived that present curriculums adequately prepared individuals for 'most or some work demands' of rural communities while only 3% of respondents perceived present curriculums to be 'totally inadequate'.

Curriculum Alteration

Of those respondents who reported that present curriculums adequately prepared individuals for 'most/only some work demands' of rural areas or that present curriculums were 'totally inadequate', the major portion in each group indicated that the professional training curriculum should be improved by changing the curriculum content offered directly at the educational site as well as providing 'rural practice experience' programs. Physicians had the highest frequency of responses (57.6%) on this alternative and Dentists the lowest (26.3%). Table XXI reveals that the frequency of responses for Dentists is similar across four curriculum alterations, i.e., altering curriculum content offered direct at the educational site (23.7%), providing rural practice experience programs (21.1%), by both a change in the educational site curriculum and rural exposure programs (26.3%), and uncertainty as to how the curriculum should be altered (21.1%).

An overview of the professional training program variables indicates that 1) the majority of the survey sample (75.5%) felt that professional skills required for, and the work demands of, rural health care were 'different in some aspects' from those of urban health care, 2) while most respondents (62.8%) had not been exposed to rural health care during training, the majority (78.9%) perceived a rural practice experience to be of some level of benefit in preparing individuals for work in the rural setting, 3) most respondents in each group felt their curriculum was adequate in preparing them for 'most work demands' in a small community, and 4) of the respondents (62.3%) who reported that present curriculums adequately prepared individuals for 'most/only some work demands' in rural areas or that present curriculums were 'totally inadequate', the major portion (46.1%) were of the opinion that professional training curriculums should be improved by changing both the curriculum content offered at the educational site and providing 'rural practice experience' programs.

Information about responses to personal training in and/or exposure to selected professional/technical skills is presented in Tables XXII and XXIII and discussed in the following section.

4.3.2 Personal Training In and/or Exposure to Selected Professional/ Technical Skills

The distributional characteristics of respondents' training in and/or exposure to a selected list of professional/technical skills are presented in Tables XXII and XXIII. Table XXII contains professional/ technical skill variables which were common across all of the surveys distributed. Table XXIII includes professional/technical skill variables which were specific to the Physician survey.

Examination of the final column in Table XXII shows that a major portion of total respondents reported training in counselling of patients and families, preventive care, and the ability to diagnose and/or treat patients without backup of a wide range of technological resources (variables 1, 2 and 3). Of these three variables, preventive care (variable 2) was the professional skill for which the highest portion of the survey sample (63.1%) had received training. Comparing each group's frequency of responses on these variables indicates that Dieticians had the highest portion of respondents (97.6%) reporting training in counselling of patients and families, and Dentists had the

17

TABLE XXII

Respondents' Training in and/or Exposure to Professional/Technical Skills by Health Care Group
Actual Number (Proportion %)

Professional/ Technical Skills	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Counselling Patients/Families							
Yes	52(53.6)	31(46.3)	47(57.3)	44(48.4)	41(17.9)	40(97.6)	255(42.0)
No	43(44.3)	29(43.3)	46(50.5)	55(24.0)	55(24.0)	1	208(34.3)
Not Applicable	2	7(10.4)	1	1	133(58.1)	-	144(23.7)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
2. Preventive Care:							
Yes	68(70.1)	64(95.5)	63(76.8)	67(73.6)	90(39.3)	31(75.6)	383(63.1)
No	27(27.8)	3(4.5)	19(23.2)	23(25.3)	46(20.1)	10(24.4)	128(21.1)
Not Applicable	2	-	-	1	93(40.6)	-	96(15.8)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
3. Diagnose/Treat Without Backup							
Yes	70(72.2)	50(74.6)	25(30.5)	63(69.2)	42(18.3)	12(29.3)	262(43.2)
No	26(26.8)	16(23.9)	50(61.0)	24(26.4)	59(25.8)	13(31.7)	188(30.9)
Not Applicable	1	1	7(8.5)	4	128(55.9)	16(39.0)	157(25.9)
Total	97(100.0)	67(100.0)	82(100)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
4. Management Skills:							
Yes	9(9.3)	13(19.4)	21(25.6)	17(18.7)	41(17.9)	34(82.9)	135(22.2)
No	86(88.7)	54(80.6)	56(68.3)	74(81.3)	170(74.2)	7(17.1)	447(73.6)
Not Applicable	2	-	5(6.1)	-	18(7.9)	-	25(4.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

TABLE XXII (Cont'd)

Respondents' Training in and/or Exposure to Professional/Technical Skills by Health Care Group
Actual Number (Proportion %)

Professional/ Technical Skills	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
5. Teaching Skills:							
Yes	43(44.3)	12(17.9)	48(58.5)	47(51.6)	65(28.4)	39(95.1)	254(41.8)
No	51(52.6)	43(64.2)	34(41.5)	44(48.4)	142(62.0)	2	316(52.1)
Not Applicable	3	12(17.9)	-	-	22(9.6)	-	37(6.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
6. Small Hospital Exposure:							
Yes	14(14.4)	10(14.9)	10(12.2)	7(7.7)	39(17.0)	5(121.2)	85(14.0)
No	80(82.5)	47(70.1)	70(85.4)	75(82.4)	152(66.4)	33(80.5)	457(75.3)
Not Applicable	3	10(14.9)	2	9(9.9)	38(16.6)	3	65(10.7)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	609(100.0)
7. Work With Other Disciplines:							
Yes	37(38.1)	22(32.8)	58(70.7)	53(58.2)	80(34.9)	17(41.5)	267(43.9)
No	58(59.8)	42(62.7)	24(29.3)	38(41.8)	129(56.3)	24(58.5)	315(51.8)
Not Applicable	2	3	-	-	20(8.7)	-	25(4.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
8. Using Community Service:							
Yes	27(27.8)	10(14.9)	51(62.2)	25(27.5)	29(12.7)	16(39.0)	158(26.0)
No	67(69.1)	52(77.6)	31(37.8)	66(72.5)	112(48.9)	23(56.1)	351(57.8)
Not Applicable	3	5(7.5)	-	-	88(38.4)	2	98(16.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

highest portion of respondents who indicated they had received training in preventive care and in the ability to diagnose and/or treat without technological back-up (95.5% and 74.6%, respectively). In contrast, the majority of Rehabilitation Medicine Therapists (50.5%) perceived that they had not received training in counselling patients and families and 61% of the Registered Nurses perceived that they had not received training in diagnosis and/or treatment without technological backup. Table XXII also reveals that, for variables 2 and 3, the major portion of Hygienists/Technologists perceived that these variables were not applicable to their profession.

Further examination of the final column in Table XXII reveals that a major portion of total respondents reported no training in or exposure to management and teaching skills, assets and liabilities of a small hospital, the ability to work with other health care disciplines, and the ability to use a wide range of community health services (variables 4 through 8). Assets and liabilities of a small hospital was the variable for which the highest portion of the survey sample (79.3%) reported no training or exposure with the majority of respondents in each group reporting the same experience. Comparison of each group's responses to the remaining variables indicates diverse distributional characteristics. Except for Dieticians, for example, most repondents in each group perceived that they had not received training in management skills (variable 4). In contrast, most Dieticians (82.9%) reported management training during their professional education. On the other hand, most Physicians (52.6%), Dentists (64.2%), and Hygienists/ Technologists (62%) indicated they had not received training in teaching skills (variable 5), whereas most Registered Nurses, Rehabilitation Medicine Therapists, and Dieticians reported they had received training in this area (58.5%, 51.6%, and 95.1% respectively). In contrast, most respondents in the remaining groups reported no training in or exposure to working with other health care disciplines. The main portion of respondents in each group, except for Registered Nurses, reported that they were not trained in or exposed to using a wide range of community health care services (variable 8). Most Registered Nurses (62.2%) reported training in or exposure to the utilization of community health care services.

An examination of Table XXIII indicates that most Physicians received training in and/or exposure to surgical training, primary care training, and the handling of emergency procedures (variables 1,2, and 3). In contrast, most Physicians (59.8%) reported that they had not been trained in or exposed to mechanisms for obtaining specialty referrals and consultations (variable 4).

In summation, the frequency distribution on professional/technical skill variables indicates that 1) a major portion of the survey sample received training in and/or exposure to counselling of patients and families, preventive care, and the ability to diagnose and/or treat patients without technological backup, 2) a major portion of the survey sample were not trained in or exposed to management skills, teaching skills, assets and liabilities of small hospitals, and the ability to work with other health care disciplines and use a wide range of community health care services, and 3) for the physician specific professional/technical skills, most Physicians reported

TABLE XXIII

Physicians' Training in and/or Exposure To Professional/Technical Skills by Response

Actual Number (Proportion %)

Professional/Technical Skills	Yes	No	Not Applicable	Total
1. Surgical Training	73(75.3)	7(7.2)	17(17.5)	97(100.0)
2. Primary Care Training	60(61.9)	14(14.4)	23(23.7)	97(100.0)
3. Emergency Procedures	91(93.8)	4(5.2)	1	97(100.0)
4. Obtaining Referrals/ Consultations	36(37.1)	58(59.8)	3	97(100.0)

education in surgical training, primary care training, and handling of emergency procedures but no training in or exposure to mechanisms for obtaining specialty referrals and consultations.

Information about responses to the perceived importance of training in and/or exposure to selected professional/technical skills is presented in Tables XXIV and XXV and discussed in the following section.

4.3.3 Perceived Importance of Training In and/or Exposure to Selected Professional/Technical Skills

The distributional characteristics of respondents' perceived importance of training in and/or exposure to selected professional/technical skills which may adequately prepare individuals for work in rural areas are presented in Table XXIV and XXV. Table XXIV contains professional/technical skill variables which were common across all of the surveys. Table XXV includes professional/technical skill variables which were specific to the Physician survey.

Examination of the final column in Table XXIV reveals that most of the total survey sample perceived all of the professional/technical skill variables to be important in adequately preparing individuals for work in rural areas. When examining each variable, the ability to work with other disciplines (variable 7) was the skill which the highest portion of the survey sample (88.1%) perceived to be important and the ability to diagnose and/or treat without technological backup (variable 3) was the skill which the lowest portion of the survey sample (68.2%) perceived to be important.

Comparing each group's responses to the professional/technical skill variables indicates that most respondents in each group, except

TABLE XXIV

Respondents' Perceived Importance of Professional/Technical Skills by Health Care Group
Actual Number (Proportion %)

Professional/ Technical Skills	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Counselling Patients/ Families:							
Important	90(92.8)	55(82.1)	80(97.6)	88(96.7)	67(29.3)	40(97.6)	420(69.2)
Not Important	6(6.2)	3	2	2	19(8.3)	1	33(5.4)
Not Applicable	1	9(13.4)	-	1	143(62.4)	-	154(25.4)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
2. Preventive Care:							
Important	92(94.8)	67(100.0)	79(96.3)	88(96.7)	103(45.0)	40(97.6)	469(77.3)
Not Important	4(4.1)	-	3	2	17(7.4)	1	27(4.4)
Not Applicable	1	-	-	1	109(47.6)	-	607(100.0)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
3. Diagnose/Treat Without Backup:							
Important	96(99.0)	60(89.6)	68(82.9)	85(93.4)	83(36.2)	22(53.7)	414(68.2)
Not Important	1	4(6.0)	6(7.3)	-	9(3.9)	3	23(3.8)
Not Applicable	-	3	8(9.8)	6(6.6)	137(59.8)	16(39.0)	170(28.0)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
4. Management Skills:							
Important	87(89.7)	66(98.5)	62(75.6)	87(95.6)	184(80.7)	41(100.0)	527(86.8)
Not Important	9(9.3)	1	13(15.9)	3	21(9.2)	-	47(7.7)
Not Applicable	1	-	7(8.5)	1	23(10.1)	-	32(5.3)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)

TABLE XXIV (Cont'd)

Respondents' Perceived Importance of Professional/Technical Skills by Health Care Group

Actual Number (Proportion %)

Professional/ Technical Skills	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
5. Teaching Skills							
Important	59(60.8)	37(55.2)	76(92.7)	88(96.7)	170(74.9)	41(100.0)	471(77.8)
Not Important	35(36.1)	15(22.4)	6(7.3)	3	36(15.9)	-	95(15.7)
Not Applicable	3	15(22.4)	-	-	21(9.3)	-	39(6.4)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	227(100.0)	41(100.0)	605(100.0)
6. Small Hospital Exposure:							
Important	78(80.4)	51(76.1)	70(85.4)	58(63.7)	156(68.4)	34(82.9)	447(73.8)
Not Important	17(17.5)	7(10.4)	6(7.3)	20(22.0)	34(14.9)	4(9.8)	88(14.5)
Not Applicable	2	9(23.4)	6(7.3)	13(14.3)	38(16.7)	3	71(11.7)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
7. Work With Other Disciplines:							
Important	85(87.6)	59(88.1)	81(98.8)	91(100.0)	178(78.1)	40(97.6)	534(88.1)
Not Important	11(11.3)	2	1	-	21(9.2)	1	36(5.9)
Not Applicable	1	6(9.0)	-	-	29(12.7)	-	36(5.9)
Total:	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
8. Using Community Resources:							
Important	87(89.7)	53(79.1)	79(96.3)	88(96.7)	105(46.1)	40(97.6)	452(74.5)
Not Important	9(9.3)	7(10.4)	3	3	27(11.8)	-	49(8.1)
Not Applicable	1	7(10.4)	-	-	96(42.1)	1	105(17.3)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)

for Hygienists/Technologists, perceived all of the variables to be important in adequately preparing individuals for work in rural areas. For each of the eight variables, most Hygienists/ Technologists perceived the majority to be important factors in preparing individuals for work in rural areas; however, a major portion of this group perceived that counselling of patients and families, preventive care, and the ability to diagnose and/or treat without technological backup (variables 1,2, and 3) were not applicable to their profession. This finding concurs with the Hygienists/Technologists responses in Table XXII where they also indicated that these same variables were not applicable to their profession.

Examination of Table XXV indicates that most Physicians perceived all four professional/technical skill variables to be important in adequately preparing individuals for work in rural areas. When examining each variable, handling emergency procedures (Variable 3) was the skill which the highest portion of Physicians (99.0%) perceived to be important and obtaining specialty referrals and consultations (Variable 4) was the skill which the lowest portion (77.3%) perceived to be important.

An overview of the professional/technical skill variables indicates that 1) most of the respondents in the sample perceived all of the common professional/technical skill variables to be important in adequately preparing individuals for work in rural areas, and 2) for the Physician specific variables, most Physicians perceived all professional/technical skills to be important.

TABLE XXV

Physicians' Perceived Importance of Professional/Technical Skills by Response

Actual Number (Proportion %)

Professional/Technical Skills	Important	Not Important	Not Applicable	Total
1. Surgical Training	79(81.4)	5(5.2)	13(13.4)	97(100.0)
2. Primary Care Training	76(78.4)	5(5.2)	16(16.5)	97(100.0)
3. Emergency Procedures	96(99.0)	-	1	97(100.0)
4. Obtaining Referrals/ Consultations	75(77.3)	20(20.6)	2	97(100.0)

Respondents were given the opportunity to list professional and/or technical skills, other than the selected variables, which they felt were important in adequately preparing individuals for work in a small community. Respondents comments were edited and can be found in Appendix E.

The next section will discuss a comparison of the perceived importance of selected professional/technical skills and respondents' training in and/or exposure to such skills. Frequency distribution of responses in presented in Tables XXVI and XXVII.

4.3.4 Comparison of the Perceived Importance of, and Respondents' Personal Training in Selected Professional/Technical Skills

The distributional characteristics of respondents' perceived importance of selected professional/technical skills are compared to the distributional characteristics of their training in and/or exposure to such skills. Table XXVI compares professional/technical skill variables which were common across all groups. Table XXVII compares professional/technical skill variables which were specific to the Physician survey.

As was observed in the previous section, Table XXVI shows that most respondents in each group, except for Hygienists/ Technologists, perceived all of the variables to be important in adequately preparing individuals for work in rural areas. A major portion of Hygienists/ Technologists had perceived that counselling of patients and families, preventive care, and the ability to diagnose and/or treat without a wide range of technological backup (variables 1, 2, and 3) were not applicable to their profession. When comparing the perceived importance of selected skills to respondents' training in and exposure to these

TABLE XXVI

Comparison of Respondents' Perceived Importance of and Training in/Exposure to Professional/Technical Skills by Health Care Group

Actual Number (Proportion %)

Professional/ Technical Skills	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Counselling Patients/ Families:							
Important	90(92.8)	55(82.1)	80(97.6)	88(96.7)	67(29.3)	40(07.6)	420(69.2)
Trained/Exposed	52(53.6)	31(46.3)	47(57.3)	44(48.4)	41(17.9)	40(97.6)	255(42.0)
2. Preventive Care							
Important	92(94.8)	67(100.0)	79(96.3)	88(96.7)	103(45.0)	40(97.6)	469(77.3)
Trained/Exposed	68(70.1)	64(95.5)	63(76.8)	67(73.6)	90(39.3)	31(75.6)	383(63.11)
3. Diagnose/Treat Without Backup:							
Important	96(99.0)	60(89.6)	68(82.9)	85(93.4)	83(36.2)	22(53.7)	414(68.2)
Trained/Exposed	70(72.2)	50(74.6)	25(30.5)	63(69.2)	42(18.3)	12(29.3)	262(43.2)
4. Management Skills:							
Important	87(89.7)	66(98.5)	62(75.6)	87(95.6)	184(80.7)	41(100.0)	527(86.8)
Trained/Exposed	9(9.3)	13(19.4)	21(25.6)	17(18.7)	41(17.9)	34(82.9)	135(22.2)
5. Teaching Skills:							
Important	59(60.8)	37(55.2)	76(91.7)	88(96.7)	170(74.9)	41(100.0)	471(77.8)
Trained/Exposed	43(44.3)	12(17.9)	48(58.5)	47(51.6)	65(28.4)	39(95.1)	254(41.8)
6. Small Hospital Exposure:							
Important	78(80.4)	51(76.1)	70(85.4)	58(63.7)	156(68.4)	34(82.9)	447(73.8)
Trained/Exposed	14(14.4)	10(14.9)	10(12.2)	7(7.7)	39(17.0)	5(12.2)	85(14.0)
7. Work With Other Discipline:							
Important	85(87.6)	59(88.1)	81(98.8)	91(100.0)	178(78.1)	40(97.6)	534(88.1)
Trained/Exposed	37(38.1)	22(32.8)	58(70.7)	53(58.2)	80(34.9)	17(41.5)	267(43.9)
8. Using Community Services:							
Important	87(89.7)	53(79.1)	79(96.3)	88(96.7)	105(46.1)	40(97.6)	452(74.5)
Trained/Exposed	27(17.8)	10(14.9)	51(62.2)	25(27.5)	29(12.7)	16(39.0)	158(26.0)

same skills, Table XXVI reveals a diverse relationship across variables. Preventive care (variable 2) was considered important by 77.3% of the survey sample and the only skill for which a majority of the survey sample (63.1%) reported receiving training and exposure. Counselling patients and families (variable 1) and the ability to diagnose and/or treat without technological backup (variable 3) were considered important by a majority of the total sample (69.2% and 68.2%, respectively) with a relatively smaller portion of the total sample trained in or exposed to these variables (42% and 43.2%, respectively). The remaining variables (4 through 8) were considered important by most of the respondents. However, a major portion of the respondents reported no training in or exposure to these variables. Assets and liabilities of a small hospital (variable 6), which was considered important by 73.8% of the respondents, was the variable for which the smallest portion of respondents (14%) reported training or exposure.

An examination of Table XXVII reveals that the largest majority of Physicians (99%) perceived the handling of emergency procedures (variable 3) to be important in adequately preparing individuals for work in rural areas, with the largest majority (93.8%) also reporting that they were trained in or exposed to this variable. In contrast, 77.3% of Physicians perceived that mechanisms for obtaining specialty referrals and consultations (variable 4) was important but only 37.1% reported training in or exposure to this variable.

In summation, all of the professional/technical skill variables common across surveys were considered important by a major portion of the total sample whereas the major portion of the respondents reported

TABLE XXVII

Physicians' Perceived Importance of and Training/Exposure To Professional/Technical Skills

Actual Number (Proportion %)

1. Surgical Training	
Important	79(81.4)
Trained/Exposed	73(75.3)
2. Primary Care Training	
Important	76(78.4)
Trained/Exposure	60(61.9)
3. Emergency Procedures	
Important	96(99.0)
Trained/Exposure	91(93.8)
4. Obtain Referrals/Consultations	
Important	75(77.3)
Trained/Exposed	36(37.1)

no training in or exposure to the majority of the variables. For the Physician specific variables, most of the Physicians considered all of the variables important in adequately preparing individuals for work in rural areas. Most also reported training in or exposure to these variables, with the exception of mechanisms for obtaining specialty referrals and consultations (variable 4).

Information about responses to the status of continuing education in rural areas is discussed in the following section.

4.4 Continuing Education for Rural Health Professionals

The opinions and attitudes of respondents regarding the status of continuing education in rural areas were sought on five dimensions. These areas included 1) the importance of and participation in continuing education, 2) accessing continuing education, 3) barriers to participation in upgrading programs, 4) respondents' preferences for various methods that could be utilized to make continuing education programs accessible to rural health professionals and 5) continuing education subjects that would meet respondents' professional needs. The frequency distribution of responses on the first four aspects of continuing education were analyzed and the results are examined in this section. Open-ended comments which identified continuing education subjects that respondents would like to see offered were edited and are presented in Appendix E.

4.4.1 Importance of and Participation in Continuing Education

Table XXVIII presents the frequency of responses on respondents' perceived importance of and participation in continuing education. As

TABLE XXVIII

Importance of and Participation in Continuing Education by Health Care Group

Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Importance of Continuing Education:							
Yes	95(97.0)	67(100.0)	82(100.0)	91(100.0)	222(96.9)	39(95.1)	596(98.2)
No	1	-	-	-	3	2	6
No Comment	1	-	-		4		5
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100)
2. Journal Subscriptions:							
Yes	96(99.0)	66(98.5)	69(84.1)	85(93.4)	170(74.2)	31(75.6)	517(85.2)
No	1	1	13(15.9)	6(6.6)	58(25.3)	10(24.4)	89(14.7)
No Comment	-	-	-	-	1		1
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
3. Attendance at Continuing Education:							
Yes	84(86.6)	62(92.5)	64(78.0)	70(76.9)	143(62.4)	34(82.9)	457(75.3)
No	13(13.4)	5(7.5)	16(19.5)	20(22.0)	83(36.2)	7(17.1)	144(23.7)
No Comment	-	-	2	1	3	-	6
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
4. Reason for Not Attending Education Courses:							
No time off from work	5(41.7)	-	-	4(22.2)	6(8.0)	1(25.0)	16(12.6)
Cost	-	1(25.0)	3(21.4)	5(27.8)	12(16.0)	-	21(16.5)
Unsuitable courses	2(16.7)	1(25.0)	4(28.6)	1(5.5)	24(32.0)	-	32(25.2)
Other	5(41.7)	2(50.0)	7(50.0)	8(44.4)	33(44.0)	3(75.0)	58(45.7)
Total	12(100.0)	4(100.0)	14(100.0)	18(100.0)	75(100.0)	4(100.0)	127(100.0)

expected, almost all of the respondents, as a whole (98.2%) or separately across all groups reported that continuing education is important. One hundred percent of Dentists, Registered Nurses, and Rehabilitation Medicine Therapists agreed that continuing education is important.

As anticipated, Table XXVIII shows that most respondents (85.2%) subscribe to professional journals. Physicians had the highest portion of respondents (99.0%) subscribing to journals, Dentists the second highest (98.5%), and Hygienists/Technologists the lowest (74.2%). As was also anticipated, most respondents (75.3%) reported attendance at continuing education courses in the past year with Dentists having the highest portion (92.5%) and Hygienists/Technologists the lowest (62.4%). Of those who had not attended any continuing education courses in the past year, the major portion (45.7%) cited reasons other than those listed for not attending. Some reasons given were: personal commitments; no notification of courses; distance, and; journals providing sufficient information.

An overview of the importance of and participation in continuing education indicates that most respondents considered continuing education to be important with the majority subscribing to professional journals and attending continuing education courses in the past year.

4.4.2 Access to Continuing Education

The frequency of responses on the perceived accessibility of continuing education for rural health professionals is presented in Table XXIX. Most of the total sample perceived access to continuing education as a major problem for rural health professionals in general

TABLE XXIX

Access to Continuing Education by Health Care Group

Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Problem for Rural Health Care Professionals in General:							
Agree	37(38.5)	15(22.4)	59(73.7)	62(68.1)	144(62.9)	28(68.3)	345(56.8)
Disagree	47(49.0)	44(65.7)	12(15.0)	15(16.5)	51(22.3)	6(14.6)	175(28.8)
Undecided	12(12.5)	8(11.9)	9(11.2)	14(15.4)	34(14.8)	7(17.1)	84(13.8)
Total	96(100.0)	67(100.0)	80(100.0)	91(100.0)	229(100.0)	41(100.0)	604(100.0)
2. Problem for Your Profession in Rural Areas:							
Agree	35(36.1)	13(19.4)	50(63.3)	57(62.6)	148(64.9)	30(73.2)	333(54.8)
Disagree	49(50.5)	48(71.6)	19(24.1)	20(22.0)	55(24.1)	6(14.6)	197(32.5)
Undecided	13(30.4)	6(9.0)	10(12.7)	14(15.4)	25(11.0)	5(12.2)	73(12.0)
Total	97(100.0)	67(100.0)	79(100.0)	91(100.0)	228(100.0)	41(100.0)	603(100.0)
3. Problem for You, Personally:							
Agree	29(30.2)	14(20.9)	47(58.7)	45(49.5)	100(44.1)	23(56.1)	258(42.9)
Disagree	55(57.3)	49(73.1)	24(30.0)	34(37.4)	80(35.2)	12(29.3)	254(41.8)
Undecided	12(12.5)	4(6.0)	9(11.2)	12(13.2)	47(20.7)	6(14.6)	90(14.8)
Total	96(100.0)	67(100.0)	80(100.0)	91(100.0)	227(100.0)	41(100.0)	602(100.0)

and for individuals in their respective professions who work in rural areas (56.8% and 54.8%, respectively). With the exception of Physicians and Dentists, most respondents in each health group also perceived access to continuing education as a major rural problem in general and for their respective professions. In contrast, the major portion of Physicians and Dentists did not consider access to continuing education to be a major problem for rural health professionals in general (49.0% and 65.7%, respectively) nor for individuals in their respective professions (50.5% and 71.6%), respectively.

The portion of respondents who considered access to continuing education as a personal problem approximated the portion who did not consider this to be the case (42.9% and 41.8%, respectively). When examining each group, Table XXIX shows that the major portion of each group, except Physicians and Dentists, agreed that access to continuing education was a personal problem. In contrast, most Physicians and Dentists did not consider access to continuing education as a major personal problem (57.3% and 73.1%, respectively).

A review of attitudes towards continuing education accessibility indicates that the major portion of Registered Nurses, Rehabilitation Medicine Therapists, Hygienists/Technologists, and Dieticians, perceived the access to continuing education as a major problem for all rural health professionals including themselves. Conversely, the major portion of Physicians and Dentists did not perceive access to continuing education as a major problem for rural health professionals in general nor for themselves.

4.4.3 Barriers to Participation in Continuing Education

The frequency distributions of responses on potential barriers to participation in continuing education are presented in Table XXX.

Examination of the final column in Table XXX reveals that a major portion of total respondents considered four of the eleven selected barrier variables to be significant in limiting participation in continuing education. These variables included distance and travel time required to attend courses, family responsibilities, personal cost of travel and fees, and employers' small budgets for education (variables 1,2,4 and 6). Of these four variables, distance and travel time (variable 1) was the barrier considered as significant by the highest portion of respondents (73.5%). Although a major portion of respondents (48.6%) considered personal cost of travel and fees (variable 4) as a significant barrier, the major portion of Physicians (49.5%), Dentists (58.2%), and Dieticians (61.0%) did not consider it significant. As well, although the major portion of the total sample considered employers' small budgets for education (variable 6) as a significant barrier, the major portion of Physicians and Dentists did not comment on this variable (44.3% and 53.7, respectively). This finding may be attributed to the fact that most Physicians and Dentist were self-employed.

Further examination of the final column in Table XXX shows that, of the seven barrier variables considered as 'not significant', insufficient notification (variable 10) was the variable considered as 'not significant' by the highest portion of respondents (65.1%). Except for Dieticians, the majority of each group also considered this variable

TABLE XXX

Barriers to Continuing Education by Health Care Group

Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Distance and Time:							
Significant	68(70.1)	34(50.7)	66(80.5)	68(74.7)	173(75.5)	37(90.2)	446(73.5)
Not Significant	27(27.8)	33(49.3)	15(18.3)	23(25.3)	55(24.0)	4(9.8)	157(25.9)
No Comment	2	-	1	-	1	-	4
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
2. Family Responsibilities:							
Significant	45(46.4)	24(35.8)	61(74.4)	50(54.9)	128(55.9)	14(34.1)	322(53.0)
Not Signiicant	48(49.5)	39(58.2)	20(24.4)	38(41.8)	96(41.9)	25(61.0)	266(43.8)
No Comment	4(4.1)	4(6.0)	1	3	5	2	19
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
3. Coverage for Job:							
Significant	53(54.6)	24(35.8)	36(43.9)	53(58.2)	96(41.9)	24(58.5)	286(47.1)
Not Significant	43(44.3)	37(55.2)	45(54.9)	37(40.7)	128(55.9)	17(41.5)	307(50.6)
No Comment	1	6(9.0)	1	1	5	-	14
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
4. Personal Cost							
Significant	47(48.5)	33(49.3)	46(56.1)	47(51.6)	107(46.7)	15(36.6)	295(48.6)
Not Significant	48(49.5)	31(46.3)	34(41.5)	39(42.9)	114(49.8)	25(61.0)	291(47.9)
No Comment	2	3(4.5)	2	5(5.5)	8	1	21
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
5. Costs Not Covered by Employers:							
Significant	22(22.7)	8(11.9)	39(47.6)	28(30.8)	80(34.9)	11(26.8)	183(31.0)
Not Significant	42(43.3)	27(40.3)	39(47.6)	53(58.2)	121(52.8)	24(58.5)	306(50.4)
No Comment	33(34.0)	32(47.8)	4	10(11.0)	28(12.2)	6(14.6)	113(18.6)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

TABLE XXX (Cont'd)

Barriers to Continuing Education by Health Care Group
Actual Number (Proportion %)

	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
6. Small Employer Budgets:							
Significant	13(13.4)	2	56(68.3)	58(63.7)	126(55.0)	25(61.0)	280(46.1)
Not Significant	41(42.3)	29(43.3)	19(23.2)	23(25.3)	73(31.9)	10(24.4)	195(32.1)
No Comment	33(34.0)	32(47.8)	4	10(11.0)	30(13.1)	6(14.6)	132(21.7)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
7. Employer's Attitude:							
Significant	7(7.2)	-	21(25.6)	10(11.0)	45(19.7)	6(14.6)	89(14.7)
Not Significant	46(47.4)	29(43.3)	53(64.6)	70(76.9)	152(66.4)	30(73.2)	380(62.6)
No Comment	44(45.3)	38(56.7)	8(9.8)	11(12.1)	32(14.0)	5(12.2)	138(22.7)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
8. Courses Do Not Meet Needs:							
Significant	22(22.7)	20(29.9)	21(25.6)	33(36.3)	98(42.8)	13(31.7)	207(34.1)
Not Significant	62(63.9)	42(62.7)	56(68.3)	51(56.0)	107(46.7)	26(63.4)	344(56.7)
No Comment	13(13.4)	5(7.5)	5(6.1)	7(7.7)	24(10.5)	2	56(9.2)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
9. Time is Inconvenient:							
Significant	35(36.1)	11(16.4)	31(37.8)	41(45.1)	99(43.2)	31(75.6)	248(40.9)
Not Significant	51(52.6)	26(38.8)	44(53.7)	42(46.2)	87(38.0)	10(24.4)	260(42.8)
No Comment	11(11.3)	30(44.8)	7(8.5)	8(8.8)	43(18.8)	-	99(16.3)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
10. Insufficient Notification:							
Significant	16(16.5)	6(9.0)	20(24.4)	28(30.8)	84(36.7)	24(58.5)	154(25.4)
Not Significant	73(75.3)	54(80.6)	59(72.0)	60(65.9)	133(58.1)	16(39.0)	395(65.1)
No Comment	8(8.2)	7(10.4)	3	3	12(5.2)	1	34(5.6)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
11. Varying Motivation:							
Significant	28(28.9)	13(19.4)	38(46.3)	11(12.1)	88(38.4)	8(19.5)	186(30.6)
Not Significant	51(52.6)	44(65.7)	35(42.7)	70(76.9)	118(51.5)	28(68.3)	346(57.0)
No Comment	17(18.5)	10(14.9)	9(11.0)	10(11.0)	23(10.0)	5(12.2)	75(12.4)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

to be 'not significant'. In contrast, most Dieticians (58.5) did consider insufficient notification (variable 10) to be significant in limiting participation in continuing education. For costs not covered by employers (variable 5) and varying motivation (variable 11) each group considered both barrier variables as 'not significant', with the exception of Registered Nurses and Dentists. The major portion of Registered Nurses (46.3%) considered variable 11 to be significant, and the portion of Registered Nurses (47.6%) who considered variable 5 to be significant equalled the portion (47.6%) who considered it to be 'not significant'. A major portion of Dentists (47.3%) had no comment on costs not covered by employers (variable 5) which may be attributed to their self-employed status. When examining each group's responses to employers' not encouraging participation in continuing education (variable, 7) Table XXX shows that most respondents in each group considered this variable as 'not significant', except for Physicians and Dentists. A major portion of Physicians (47.7%) considered variable 7 as 'not significant', however this portion approximated the portion (45.3%) who had no comment on this variable. For Dentists, most (56.7%) had no comment on variable 7. This frequency of responses for Physicians and Dentists is to be expected as most were self-employed.

In summation, the responses related to questions concerned with selected barriers to participation in continuing education indicate that

1) a major portion of the total sample considered the following barriers to be significant:

    - distance and travel times,
    - family responsibilities,
    - personal cost of travel and fees, and
    - employers' small budgets for education, and;

2) a major portion of the total sample considered the following to be 'not significant'

- coverage for work,
- costs not covered by employers,
- employers' attitudes,
- courses not meeting needs,
- inconvenient scheduling,
- insufficient notification, and
- varying motivation

Respondents, were also given the opportunity to list any barriers, other than the the selected variables, which they felt limited their participation in continuing education programs. Respondents' edited comments are presented in Appendix E.

4.4.4 Personal Preferences for Methods of Presenting Continuing Education

The mean response scores for respondents' personal preferences for methods of presenting continuing education programs are presented in Table XXXI. Responses to the variables were weighted by the values 1, 2, 3, 4, and 5, depending on the level of personal preference, and then their mean scores were calculated for respondents in each group and for all respondents combined.

Examination of the final column in Table XXXI reveals that the greatest level of perceived personal preference for the total sample was approximately equal for one or two day urban workshops and outreach courses (variables 1 and 5). Comparing each group's mean response scores for variable 1 indicated that each group perceived a moderate to high preference for variable 1, with Dieticians perceiving the greatest level of preference. Comparison of each group's mean response scores for variable 5 also revealed that each group perceived a moderate to high preference for this variable, with Registered Nurses reporting the greatest level of preference. The total sample's next greatest level of perceived personal preference for methods of presenting continuing education was associated with travelling consultants (variable 4). When the mean scores for this variable were compared by group, Registed Nurses reported the greatest level of personal preference for travelling consultants; whereas, this variable was least preferred by Dentists.

The total sample's least preferred method of presenting continuing education was evening series in an urban centre (variable 3). Examination of each group's mean scores showed that each group perceived a low preference for this variable, with urban evening series least preferred by Dieticians and Rehabilitation Medicine Therapists.

An overview of personal preferences for selected methods of presenting continuing education programs indicates that, for the total sample 1) the greatest level of perceived personal preferences was for one or two day urban workshops and outreach courses, and 2) the least preferred method of presenting continuing education was associated with evening series in an urban centre.

Respondents were requested to list other methods that they felt could be used to effectively provide continuing education to health professionals in small communities. The edited comments are reported in Appendix E.

Information about responses to selected factors which could potentially influence health professionals to locate in rural communities is presented in the following section.

TABLE XXXI

Mean Response Score[1] by Health Care Group for Methods of Presenting Continuing Education

VARIABLE	Mean Score PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Urban Workshops	3.84	3.87	3.38	4.24	3,67	4.34	3.89
2. Short Urban Courses	2.07	2.24	2.79	2.18	2.69	2.51	2.41
3. Urban Evening Series	1.94	1.82	2.23	1.60	1.94	1.60	1.85
4. Travelling Consultants	3.86	2.88	4.63	3.68	4.04	3.64	3.76
5. Outreach Courses	3.46	3.06	4.68	4.10	4.14	3.66	3.85
6. Self-Instructional Materials	3.29	3.45	3.76	3.87	3.85	3.71	3.66
7. Correspondence	1.90	2.12	3.29	3.18	3.65	3.15	2.88
8. Teleconferences	2.71	1.91	3.06	3.29	3.33	4.00	3.05
9. Sabbaticals	3.66	2.72	3.10	3.65	3.08	3.02	3.21

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[1] The following weights were assigned: lowest preference 1; low preference 2; moderate preference 3; high preference 4; highest preference 5.

4.5 Relative Importance of Location Decision Factors

The distributional characteristics of the relative importance of selected variables in influencing respondents' decisions to locate in rural communities are presented in Tables XXXII and XXXIII. Table XXXII contains location decision variables which were common across all health groups. Table XXXIII includes location decision variables which were specific to Physicians and Dentists. Respondents were also asked to list any factors, other than the selected variables, which were considered to be important in influencing their decisions to locate in rural communities. Open-ended comments were edited and are listed in Appendix E.

Table XXXII shows that six of the fifteen common location decision variables (variable 1, 5, 8, 10, 12 and 14) were perceived by a major portion of respondents to be important in attracting them to rural communities. Of these variables, most respondents (80.4%) considered the idea of small community living (variable 8) as an important variable and the fewest respondents perceived the influence of their 'place of rearing' (variable 5) and close proximity to a major cultural and shopping centre (variable 10) as important variables (46.2% and 46.9%, respectively). The major portion of each group, except for Registered Nurses and Rehabilitation Medicine Therapists considered variables 1, 8, 12, and 14 to be important in influencing their location decisions. A major portion of Registered Nurses (43.9%) perceived that a need in the community for their professional expertise (variable 12) was not a factor in their deciding where to work, and; a major portion of Rehabilitation Medicine Therapists (41.8%) considered a good community

TABLE XXXII

Importance of Location Decision Factors by Health Care Groups
Actual Number (Proportion %)

LOCATION DECISION VARIABLES	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Influence of Spouse:							
Important	70(72.2)	40(59.7)	63(76.8)	59(65.6)	138(60.3)	22(53.7)	392(64.6)
Not Important	18(18.6)	16(23.9)	2	6(6.7)	20(8.7)	1	63(10.4)
Not Applicable	9(9.3)	11(16.4)	17(20.7)	25(27.8)	71(31.0)	18(43.9)	151(24.9)
Total	97(100.0)	67(100.0)	82(100.0)	90(100.0)	229(100.0)	41(100.0)	606(100.0)
2. Influence Parents/ Relations:							
Important	10(10.3)	19(28.4)	19(23.2)	15(16.5)	49(21.4)	12(29.3)	124(20.4)
Not Important	68(70.1)	36(53.7)	47(57.3)	53(58.2)	128(55.9)	17(41.5)	349(57.5)
Not Applicable	19(19.6)	12(17.9)	16(19.5)	23(25.3)	52(22.7)	12(29.3)	134(22.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
3. Influence of Acquaintance/ Friend:							
Important	32(33.0)	26(38.8)	20(24.4)	12(13.2)	35(15.4)	4(9.8)	129(21.3)
Not Important	53(54.6)	32(47.8)	49(59.8)	58(63.7)	140(61.4)	24(58.5)	356(58.6)
Not Applicable	19(19.6)	9(13.4)	13(15.9)	21(23.1)	53(23.2)	13(31.7)	121(19.9)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
4. Influence of Colleagues/ Professors:							
Important	30(30.9)	13(19.4)	9(11.0)	8(8.8)	34(14.8)	3(7.3)	97(16.0)
Not Important	53(54.6)	42(62.7)	49(59.8)	58(63.7)	134(58.5)	21(51.2)	357(58.8)
Not Applicable	14(14.4)	12(17.9)	24(29.3)	25(27.5)	61(26.6)	17(41.5)	153(25.2)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

TABLE XXXII (Cont'd)

Importance of Location Decision Factors by Health Care Groups
Actual Number (Proportion %)

LOCATION DECISION VARIABLES	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
5. Influence of Place of Rearing:							
Important	39(40.6)	26(38.8)	47(57.3)	33(36.3)	118(51.5)	17(41.5)	280(46.2)
Not Important	47(49.0)	35(52.2)	21(25.6)	37(40.7)	90(39.3)	21(51.2)	251(41.4)
Not Applicable	10(10.4)	6(9.0)	14(17.1)	21(23.1)	21(9.2)	3(7.3)	75(12.4)
Total	96(100.0)	67(100.0)	81(100.0)	91(100.0)	229(100.0)	41(100.0)	606(100.0)
6. Rural Oriented Curriculum:							
Important	22(22.7)	2	9(11.0)	4	68(29.8)	5(12.2)	110(18.2)
Not Important	49(50.5)	39(58.2)	32(39.0)	43(47.3)	69(30.3)	12(29.3)	244(40.3)
Not Applicable	26(26.8)	26(38.8)	41(50.0)	44(48.4)	91(39.9)	24(58.5)	252(41.6)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
7. Rural Practicum:							
Important	34(35.1)	17(25.4)	18(22.0)	10(11.0)	69(30.3)	11(26.8)	159(26.2)
Not Important	38(39.2)	28(41.8)	25(30.5)	33(36.3)	64(28.1)	9(22.0)	197(32.5)
Not Applicable	25(25.8)	22(32.8)	39(47.6)	48(52.7)	95(41.7)	21(51.2)	250(41.3)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
8. Small Community Living:							
Important	81(83.5)	59(88.1)	65(79.3)	62(68.1)	190(83.3)	30(73.2)	487(80.4)
Not Important	11(11.3)	8(11.9)	9(11.0)	21(23.1)	33(14.5)	8(19.5)	90(14.9)
Not Applicable	5(5.2)	-	8(9.8)	8(8.8)	5	3(7.3)	29(4.8)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
9. Influential in Community:							
Important	26(26.8)	20(29.9)	18(22.0)	21(23.1)	59(25.9)	7(17.1)	151(24.9)
Not Important	64(66.0)	45(67.2)	46(56.1)	59(64.8)	138(60.5)	23(56.1)	375(61.9)
Not Applicable	7(7.2)	2	18(22.0)	11(12.1)	31(13.6)	11(26.8)	80(13.2)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)

TABLE XXXII (Cont'd)

Importance of Location Decision Factors by Health Care Groups
Actual Number (Proportion %)

LOCATION DECISION VARIABLES	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
10. Close to Major Centre:							
Important	55(56.7)	38(56.7)	35(42.7)	35(38.5)	109(47.6)	13(31.7)	285(46.9)
Not Important	33(34.0)	20(29.9)	26(31.7)	35(38.5)	83(36.2)	14(343.1)	211(34.8)
Not Applicable	9(9.3)	9(13.4)	21(25.6)	21(23.1)	37(16.2)	14(34.1)	111(18.3)
Total	97(100.0)	67(100.0)	81(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
11. Advertisements:							
Important	15(15.5)	10(14.9)	8(9.8)	18(20.0)	28(12.2)	1	80(13.2)
Not Important	60(61.9)	32(47.8)	37(45.1)	51(56.7)	136(59.4)	22(53.7)	338(55.8)
Not Applicable	22(22.7)	25(37.3)	37(45.1)	21(23.3)	65(28.4)	18(43.9)	188(31.0)
Total	97(100.0)	67(100.0)	82(100.0)	90(100.0)	229(100.0)	41(100.0)	606(100.0)
12. Need in Community:							
Important	70(72.2)	49(73.1)	22(26.8)	62(68.9)	151(65.9)	33(80.5)	387(63.9)
Not Important	18(18.6)	8(11.9)	24(29.3)	18(20.0)	42(18.3)	5(12.2)	115(19.0)
Not Applicable	9(9.3)	10(14.9)	36(43.9)	10(11.1)	36(15.7)	3(7.3)	104(17.2)
Total	97(100.0)	67(100.0)	82(100.0)	90(100.0)	229(100.0)	41(100.0)	606(100.0)
13. Challenge:							
Important	49(50.5)	17(25.4)	29(35.4)	46(51.1)	76(33.2)	16(39.0)	233(38.4)
Not Important	37(38.1)	36(53.7)	29(35.4)	30(33.3)	118(51.5)	16(39.0)	266(43.9)
Not Applicable	11(11.3)	14(20.9)	24(29.3)	14(15.6)	35(15.3)	9(22.0)	107(17.7)
Total	97(100.0)	67(100.0)	82(100.0)	90(100.0)	229(100.0)	41(100.0)	606(100.0)
14. Community Hospital:							
Important	79(81.4)	30(44.8)	46(56.1)	29(31.9)	139(60.7)	26(63.4)	349(57.5)
Not Important	13(13.4)	24(35.8)	19(23.2)	38(41.8)	59(25.8)	8(19.5)	161(26.5)
Not Applicable	5(5.2)	13(19.4)	17(20.7)	24(26.4)	31(13.5)	7(17.1)	97(16.0)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
15. Nearby Medical Centre:							
Important	53(54.6)	14(20.9)	27(32.9)	18(19.8)	45(19.7)	4(9.8)	161(26.5)
Not Important	35(36.1)	29(43.3)	28(34.1)	49(53.8)	114(49.8)	25(61.0)	280(46.1)
Not Applicable	9(9.3)	24(35.8)	27(32.9)	24(26.4)	70(30.6)	12(29.3)	166(27.3)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

hospital (variable 14) as not important in influencing their location decisions. The result for Rehabilitation Medicine Therapists may be attributed, in part, to the fact that Speech Pathologists in this group worked in community health. Although a major portion of the total sample (46.2%) considered the influence of their 'place of rearing' (variable 5) as an important location decision variable, a major portion of four of the six groups did not respond in the same manner. Registered Nurses and Hygienists/Technologists were the only groups with a majority who considered 'place of rearing' as influencing their location decisions (57.3% and 51.5%, respectively). When examining the frequency of responses on close proximity to a major cultural and shopping centre (variable 10), Table XXXII reveals that two groups had an equal number of respondents split between two response choices. An equal number of Rehabilitation Medicine Therapists (38.5%) perceived variable 10 to be important and not important, and; an equal number of Dieticians (34.1%) considered this variable to be not important and not applicable in influencing their location decisions.

Of the nine variables which were not considered as important in influencing location decisions, two (variables 6 and 7) were perceived as not applicable and seven (variable 2, 3, 4, 9, 11, 13, and 15) as not important. As many respondents had not been exposed to a rural practice experience during training and had reported a lack of 'rural health care' in professional curriculums, it was to be expected that a major portion of the total sample would perceive a rural practicum (variable 7) and a rural oriented curriculum (variable 6) to be not applicable in influencing their decisions to locate in rural areas (41.6% and 41.3%

respectively). Of the seven variables considered to be not important by the major portion of respondents, most (61.9%) perceived the prospect of being more influential in community affairs (variable 9) as not important and the fewest respondents (43.9%) considered the challenge of working in a small community (variable 13) as not important. When examining the frequency of responses across groups, Table XXXII shows that the major portion of each group considered parents or relatives (variable 2), acquaintances or friends (variable 3), colleagues and professors (variable 4), and the prospect of being influential in community affairs (variable 9) as not important in influencing their location decisions. The major portion of each group, except for Physicians and Registered Nurses, considered a medical centre in a nearby large city (variable 15) and advertisements in a professional journal (variable 11) as not important as location decision variables. Most Physicians (54.6%) perceived a nearby medical centre (variable 15) to be important, and an equal number of Registered Nurses (45.1%) perceived advertisements (variable 11) to be not important and not applicable as location decision variables. The frequency of responses on the challenge of working in a small community (variable 13) varied across groups. Most Physicians and Rehabilitation Medicine Therapists considered this location decision variable to be important (50.5% and 51.1%, respectively); most Dentists and Hygienists/Technologists considered this variable to be not important (53.7% and 51.5%, respectively); and an equal number of Registered Nurses (35.4%) and Dieticians (39.0%) considered the variable as 'important' and 'not important'.

An examination of Physician and Dentist specific variables in Table XXXIII shows that a major portion of Physicians and Dentists perceived the prospect of building a busy practice earlier (variable 2) and the opportunity to work with an established practitioner as a partner (variable 3) as important factors in influencing their decisions to locate in rural communities. Most Physicians (53.6%) considered assistance with capital investment of establishing a practice (variable 1) to be not important as a location decision variable and most (56.7%) considered the opportunity to join a group practice (variable 4) to be an important variable. In contrast, the major portion of Dentists perceived variables 1 and 4 as not applicable in influencing their location decisions (44.8% and 40.3%, respectively).

An overview of the relative importance of selected common variables in influencing respondents' decisions to locate in rural communities indicates that 1) the major portion of the total sample perceived six of the fifteen variables to be important location decision variables, 2) two variables were perceived to be not applicable, and 3) of all common variables, the idea of small community living had the most respondents (80.7%) reporting it to be important as a location decision variable and the prospect of being more influential in community affairs had the most respondents (61.9%) perceiving it to be not important as a location decision variable.

An overview of Physician and Dentist specific variables indicates that a major portion of Physicians considered three of the four variables to be important for their decision to locate in rural communities. A major portion of Dentists perceived two variables to be

TABLE XXXIII

Importance of Location Decision Factors for Physicians and Dentists

Actual Number (Proportion %)

Location Decision Variables	Physicians	Dentists	Total Sample
1. Assistance with Capital Investment			
Important	19(19.6)	11(16.4)	30(18.3)
Not Important	52(53.6)	26(38.8)	78(47.6)
Not Applicable	26(26.8)	30(44.8)	56(34.1)
Total	97(100.0)	67(100.0)	164(100.0)
2. Building a Practice Earlier			
Important	42(43.3)	46(69.7)	88(54.0)
Not Important	39(40.2)	13(19.7)	52(31.9)
Not Applicable	16(16.5)	7(10.6)	23(14.1)
Total	97(100.0)	66(100.0)	163(100.0)
3. Working with Partner			
Important	64(66.0)	31(46.3)	95(57.9)
Not Important	21(21.6)	18(26.9)	39(23.8)
Not Applicable	12(12.4)	18(26.9)	30(18.3)
Total	97(100.0)	67(100.0)	164(100.0)
4. Group Practice			
Important	55(56.7)	18(26.9)	73(44.5)
Not Important	29(29.9)	22(32.8)	51(31.1)
Not Applicable	13(13.4)	27(40.3)	40(24.4)
Total	97(100.0)	67(100.0)	164(100.0)

important and two variables as not applicable in influencing their location decisions.

Responses pertaining to potential sources of satisfaction in rural communities are discussed in the next section.

4.6 Sources of Satisfaction in Rural Communities

The distributional characteristics of potential sources of satisfaction in rural communities are presented in Tables XXXIV and XXXV. Table XXXIV shows source of satisfaction variables which were common across all health groups. Table XXXV includes source of satisfaction variables specific to Physicians and Dentists. Respondents were also given the opportunity to list any factors, other than the selected variables, which were perceived to be personal sources of satisfaction in their rural communities. The edited comments are reported in Appendix E.

Table XXXIV reveals that a major portion of the total sample perceived all but two of the selected variables (variable 2 and 3) to be personal sources of satisfaction in their rural communities. Most respondents (88.1%) considered work that provides exposure to a variety of clients and experiences (variable 13) as a personal source of satisfaction and the fewest respondents (40.0%) perceived the opportunity to work on a part-time basis (variable 15) as a source of satisfaction. When examining the relative frequencies across groups, most respondents in each group considered the following variables to be personal sources of satisfaction: the quality of small community living (variable 1); the opportunity to work in a small, cohesive work environment (variable 4); autonomy or independence in work (variable 5); quality of the professional-client relationship (variable 6); the feeling of being wanted or needed (variable 8); the opportunity to know the families of patients (variable 10); work responsibilities providing more challenge than in a large community (variable 12), and; work providing exposure to a variety of clients and experiences (variable 13). For the remaining five variables reported to be sources of satisfaction by the major portion of the total sample, the relative frequencies of each group varied across response choices. For example, a major portion of Registered Nurses (63.4%), Rehabilitation Medicine Therapists (40.7%), and Hygienists/Technologists (45.9%) reported the opportunity to work on a part-time basis (variable 15) to be a personal source of satisfaction, whereas the relative frequencies of Dieticians (39.0%) were comparable on reporting that this variable was not a source of satisfaction and was not applicable to their situation. As well, a majority of Physicians (52.6%) and a major portion of Dentists (44.8%) did not consider the opportunity to work on a part-time basis to be a source of satisfaction. These frequency distributions for Physicians and Dentists are to be expected as Physicians had, on average, reported a 50.9 hour work week and Dentists had on average, reported a 39.3 hour work week.

Lower cost of living (variable 2) and community prestige and opportunities for community leadership (variable 3) were not considered to be sources of personal satisfaction in rural communities by most respondents (52.4% and 57.3%, respectively). When examining the relative frequencies across groups, the major portion of respondents in each group also perceived that these two variables were not sources of satisfaction. For lower cost of living (variable 2), a number of

TABLE XXXIV

Potential Sources of Satisfaction by Health Care Group
Actual Number (Proportion %)

SOURCES OF SATISFACTION	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Small Community Living:							
Yes	80(82.5)	58(86.6)	71(86.6)	68(74.7)	204(89.5)	30(73.2)	511(84.3)
No	14(14.4)	7(10.4)	5(6.1)	15(16.5)	21(9.2)	10(24.4)	72(11.9)
Not Applicable	3	2	6(7.3)	8(8.8)	3	1	23
Total	97(100.0)	67(100.0)	81(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
2. Lower Cost of Living:							
Yes	21(21.6)	21(31.3)	28(34.1)	20(22.0)	89(38.9)	9(22.0)	188(30.9)
No	61(62.9)	38(56.7)	33(40.2)	52(57.1)	111(48.5)	23(56.1)	318(52.4)
Not Applicable	15(15.5)	8(11.9)	21(25.6)	19(20.9)	29(12.7)	9(22.0)	101(16.6)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
3. Prestige/Leadership:							
Yes	37(38.1)	26(38.8)	27(32.9)	26(28.6)	64(27.9)	12(29.3)	192(31.6)
No	52(53.6)	37(55.2)	45(54.9)	55(60.4)	137(59.8)	22(53.7)	348(57.3)
Not Applicable	8(8.2)	4	10(12.2)	10(11.0)	28(12.2)	7(17.1)	67(11.0)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
4. Small, Cohesive Environment:							
Yes	79(82.3)	44(65.7)	67(81.7)	74(81.3)	200(87.3)	34(85.0)	493(82.3)
No	16(16.7)	16(23.9)	11(13.4)	15(16.5)	27(11.8)	4(10.0)	89(14.7)
Not Applicable	1	7(10.4)	4	2	2	2	18
Total	96(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	40(100.0)	605(100.0)
5. Autonomy/Independence:							
Yes	81(83.5)	59(88.1)	54(65.9)	84(92.3)	174(76.0)	38(92.7)	490(80.7)
No	10(10.3)	7(10.4)	19(23.2)	7(7.7)	41(17.9)	1	85(14.0)
Not Applicable	6(6.2)	1	9(11.0)	-	14(6.1)	2	32(5.3)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

TABLE XXXIV (Cont'd)

Potential Sources of Satisfaction by Health Care Group
Actual Number (Proportion %)

SOURCES OF SATISFACTION	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
6. Client Relationship:							
Yes	79(81.4)	53(79.1)	66(80.5)	76(83.5)	173(75.9)	33(80.5)	480(79.2)
No	12(12.4)	11(16.4)	10(12.2)	14(15.4)	36(15.8)	5(12.2)	88(14.5)
Not Applicable	6(6.2)	3	6(7.3)	1	19(8.3)	3	38(6.3)
Total	91(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	606(100.0)
7. Financial Incentives:							
Yes	39(40.6)	43(64.2)	37(45.1)	34(37.4)	148(65.2)	23(56.1)	324(53.7)
No	45(46.9)	17(25.4)	33(40.2)	49(53.8)	62(27.3)	16(39.0)	222(36.8)
Not Applicable	12(12.5)	7(10.4)	12(14.6)	7(7.7)	17(7.5)	2	57(9.5)
Total	96(100.0)	67(100.0)	82(100.0)	90(100.0)	227(100.0)	41(100.0)	603(100.0)
8. Being Wanted/Needed:							
Yes	77(79.4)	47(70.1)	64(78.0)	71(78.0)	175(76.4)	30(73.2)	464(76.4)
No	17(17.5)	16(23.9)	9(11.0)	19(20.9)	41(17.9)	9(20.0)	111(18.3)
Not Applicable	3	4	9(11.0)	1	13(5.7)	2	32(5.3)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
9. Professional Leadership:							
Yes	39(40.2)	21(31.3)	43(52.4)	55(60.4)	98(42.8)	25(61.0)	281(46.3)
No	45(46.4)	34(50.7)	29(35.4)	29(31.9)	104(45.4)	14(34.1)	255(42.0)
Not Applicable	13(13.4)	12(17.9)	10(12.2)	7(7.7)	27(11.8)	2	607(100.0)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
10. Knowing Patients' Families:							
Yes	71(73.2)	48(71.6)	71(86.6)	61(67.0)	122(53.3)	26(63.4)	399(65.7)
No	21(21.6)	16(23.9)	7(8.5)	28(30.8)	75(32.8)	13(31.7)	160(26.4)
Not Applicable	5(5.2)	3	4	2	32(14.0)	2	48(7.9)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

TABLE XXXIV (Cont'd)

Potential Sources of Satisfaction by Health Care Group
Actual Number (Proportion %)

SOURCES OF SATISFACTION	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
11. Support Facilities:							
Yes	60(61.9)	20(29.9)	43(52.4)	28(30.8)	98(42.8)	10(24.4)	259(42.7)
No	32(33.0)	32(47.8)	26(31.7)	48(52.7)	88(38.4)	22(53.7)	248(40.6)
Not Applicable	5(5.2)	15(22.4)	13(15.9)	15(16.5)	43(18.8)	9(22.0)	100(16.5)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
12. Challenge of Work:							
Yes	76(78.4)	38(56.7)	58(70.7)	65(71.4)	179(78.2)	37(90.2)	453(74.8)
No	16(16.5)	22(32.8)	17(20.7)	23(25.3)	38(16.6)	2	118(19.5)
Not Applicable	5(5.2)	7(8.5)	7(8.5)	3	11	2	35(5.8)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
13. Varied Work Experience:							
Yes	83(85.6)	57(85.1)	74(90.2)	84(92.3)	200(87.3)	37(90.2)	535(88.1)
No	10(10.3)	7(10.4)	7(8.5)	5(5.5)	23(10.0)	4(9.8)	56(9.2)
Not Applicable	4	3	1	2	6	-	16
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
14. Hours of Work:							
Yes	36(37.1)	48(71.6)	37(45.1)	48(52.7)	83(36.2)	24(58.5)	276(45.5)
No	46(47.4)	14(20.9)	25(30.5)	28(30.8)	101(44.1)	13(31.7)	227(37.4)
Not Applicable	15(15.5)	5(7.5)	20(24.4)	15(16.5)	45(19.7)	4(9.8)	104(17.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
15. Part-time Work							
Yes	20(20.6)	20(29.9)	52(63.4)	37(40.7)	105(45.9)	9(22.0)	243(40.0)
No	51(52.6)	30(44.8)	15(18.3)	26(28.6)	71(31.0)	16(39.0)	209(34.4)
Not Applicable	26(26.8)	17(25.4)	15(18.3)	28(30.8)	53(23.1)	16(39.0)	155(25.5)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

respondents commented that the cost of living in rural areas was higher, not lower, than that in large centres.

An examination of Physician and Dentist specific variables in Table XXXV shows that most Physicians and Dentists did not consider lower costs of maintaining a practice (variable 1) to be a source of satisfaction in rural communities (52.1 and 53.7%, respectively). Many open-ended comments which referred to this variable indicated that costs of maintaining a practice were higher in rural areas as compared to larger centres. The opportunity to participate in a group practice (variable 2) was considered by most Physicians (56.7%) to be a source of satisfaction. In contrast, the relative frequencies of Dentists were comparable on reporting this variable as a source of satisfaction, not a source of satisfaction, and not applicable (32.8%, 35.8%, and 31.3%, respectively).

In summation, all but two of the selected common variables were considered to be personal sources of satisfaction by a major portion of the total sample. Lower cost of living and community prestige and opportunities for community leadership were not considered as sources of satisfaction by most respondents. For Physician and Dentist specific variables, lower costs of maintaining practice was not considered to be a source of satisfaction by either Physicians or Dentists. In contrast, participation in group practice was considered a source of satisfaction by most Physicians, whereas Dentist's responses were comparable across the three response choices.

Responses pertaining to potential sources of dissatisfaction in rural communities are discussed in the following section.

TABLE XXXV

Potential Sources of Satisfaction for Physicians and Dentists

Actual Number (Proportion %)

Source of Satisfaction	Physicians	Dentists	Total Sample
1. Lower Costs of Practice			
Yes	29(30.2)	23(34.3)	52(31.9)
No	50(52.1)	36(53.7)	86(52.8)
Not Applicable	17(17.7)	8(11.9)	25(15.3)
Total	96(100.0)	67(100.0)	163(100.0)
2. Group Practice			
Yes	55(56.7)	22(32.8)	77(46.9)
No	29(29.9)	24(35.8)	53(32.3)
Not Applicable	13(13.4)	21(31.3)	34(20.7)
Total	97(100.0)	67(100.0)	164(100.0)

4.7 Sources of Dissatisfaction in Rural Communities

The frequencies of responses on selected potential sources of dissatisfaction in rural communities are presented in Table XXXVI. Respondents' open-ended comments on other factors which they considered to be personal sources of dissatisfaction are listed in Appendix E.

Table XXXVI reveals that a major portion of the total sample perceived four of the sixteen selected variables to be personal sources of dissatisfaction in rural communities. These variables included a scarcity of cultural events and places of entertainment (variable 1), limited opportunities to specialize (variable 10), limited opportunities for professional growth (variable 15), and limited opportunities to attend continuing education programs (variable 16). Most respondents (65.9%) considered limited continuing education (variable 16) as a source of dissatisfaction and the relative frequency of the total sample (48.8%) reporting scarcity of cultural events and places of entertainment (variable 1) as a source of dissatisfaction was comparable to the relative frequency (47.9%) which did not consider this variable to be a source of dissatisfaction. An examination of relative frequencies across groups shows that the relative frequencies of each group varied across response choices. For example, most Registered Nurses (53.7%) and Hygienists/Technologists (64.6%) perceived limited specialization (variable 10) as a source of dissatisfaction, whereas; most Physicians (55.7%), Dentists (56.7%), Dieticians (53.7%), and the major portion of Rehabilitation Medicine Therapists (45.1%) did not consider this variable as a source of dissatisfaction. As well, most Physicians

TABLE XXXVI

Potential Sources of Dissatisfaction by Health Care Group
Actual Number (Proportion %)

SOURCES OF DISSATISFACTION	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Scarcity of Culture/ Entertainment							
Yes	40(41.2)	35(52.2)	36(44.4)	52(57.8)	104(45.8)	27(65.9)	294(48.8)
No	52(53.6)	31(46.3)	41(50.6)	36(40.0)	116(51.1)	13(31.7)	289(47.9)
Not Applicable	5(5.2)	1	4	2	7	1	20(3.3)
Total	97(100.0)	67(100.0)	81(100.0)	90(100.0)	227(100.0)	41(100.0)	603(100.0)
2. Lack of Adequate Schooling							
Yes	17(17.7)	4	9(11.0)	14(15.6)	22(9.6)	1	67(11.1)
No	66(68.8)	55(82.1)	60(73.2)	62(68.9)	157(68.6)	22(53.7)	422(69.8)
Not Applicable	13(13.5)	8(11.9)	13(15.9)	14(15.6)	50(21.8)	18(43.9)	116(19.2)
Total	96(100.0)	67(100.0)	82(100.0)	90(100.0)	229(100.0)	41(100.0)	605(100.0)
3. No Privacy in Leisure Time							
Yes	50(52.1)	21(31.3)	9(11.0)	15(16.7)	37(16.2)	12(29.3)	144(23.8)
No	43(44.8)	44(65.7)	69(84.1)	69(76.7)	181(79.0)	27(65.9)	433(71.6)
Not Applicable	3	2	4	6(6.7)	11	2	28(4.6)
Total	96(100.0)	67(100.0)	82(100.0)	90(100.0)	229(100.0)	41(100.0)	605(100.0)
4. Lack of Rural Training:							
Yes	17(17.5)	5(7.5)	22(26.8)	31(34.4)	40(17.5)	12(29.3)	127(20.9)
No	72(74.2)	57(85.1)	56(68.3)	57(63.3)	170(74.2)	26(63.4)	438(72.3)
Not Applicable	8(8.2)	5(7.5)	4	2	19(8.3)	3(7.3)	41(6.8)
Total	97(100.0)	67(100.0)	82(100.0)	90(100.0)	229(100.0)	41(100.0)	606(100.0)
5. Relating to Few Peers:							
Yes	31(32.0)	19(28.4)	13(15.9)	53(58.2)	59(25.8)	28(68.3)	203(33.4)
No	61(62.9)	48(71.6)	67(81.7)	36(39.6)	161(70.3)	12(29.3)	385(63.4)
Not Applicable	5(5.2)	-	2	2	9	1	19
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

TABLE XXXVI (Cont'd)

Potential Sources of Dissatisfaction by Health Care Group
Actual Number (Proportion %)

SOURCES OF DISSATISFACTION	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
6. Lack of Clinical Support:							
Yes	25(25.8)	21(31.3)	22(26.8)	56(62.2)	48(21.0)	16(39.0)	188(31.1)
No	68(70.1)	42(62.7)	56(68.3)	32(35.6)	160(70.2)	24(58.5)	382(63.1)
Not Applicable	4	4	4	2	20(8.8)	1	35(5.8)
Total	97(100.0)	67(100.0)	82(100.0)	90(100.0)	228(100.0)	41(100.0)	605(100.0)
7. Heavy Work Load:							
Yes	36(37.1)	7(10.4)	22(26.8)	45(49.5)	44(19.4)	18(43.9)	172(28.4)
No	58(59.8)	59(88.1)	56(68.3)	45(49.5)	180(79.3)	23(56.1)	421(69.6)
Not Applicable	3	1	4	1	3	-	12
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	227(100.0)	41(100.0)	605(100.0)
8. Inadequate Time Off Work:							
Yes	38(39.2)	15(22.4)	15(18.3)	22(24.2)	49(21.4)	11(26.8)	150(24.7)
No	57(58.8)	51(76.1)	63(76.8)	65(71.4)	172(75.1)	30(73.2)	438(72.2)
Not Applicable	2	1	4	4	8	-	19(3.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
9. No Privacy During Work:							
Yes	27(27.8)	14(20.9)	17(20.7)	13(14.3)	35(15.4)	13(31.7)	119(19.6)
No	66(68.0)	51(76.1)	60(73.2)	73(80.2)	175(76.8)	27(65.9)	452(74.6)
Not Applicable	4	2	5(6.1)	5(5.5)	18(7.9)	1	35(5.8)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
10. Limited Specialization:							
Yes	28(28.9)	23(34.3)	44(53.7)	39(42.9)	148(64.6)	16(39.0)	298(49.1)
No	54(55.7)	38(56.7)	27(32.9)	41(45.1)	59(25.8)	22(53.7)	241(39.7)
Not Applicable	15(15.5)	6(9.0)	11(13.4)	11(12.1)	22(9.6)	3(7.3)	68(11.2)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
11. Limited Community Resources:							
Yes	23(23.7)	15(22.4)	30(36.6)	39(43.3)	84(36.7)	16(39.0)	207(34.2)
No	69(71.1)	50(74.6)	49(59.8)	49(54.4)	126(55.0)	24(58.5)	367(60.6)
Not Applicable	5(5.2)	2	3	2	19(8.3)	1	32(5.3)
Total	97(100.0)	67(100.0)	82(100.0)	90(100.0)	229(100.0)	41(100.0)	606(100.0)

TABLE XXXVI (Cont'd)

Potential Sources of Dissatisfaction by Health Care Group
Actual Number (Proportion %)

SOURCES OF DISSATISFACTION	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
12. Excessive Work for Reasonable Income:							
Yes	31(32.0)	15(22.4)	9(11.1)	10(11.1)	23(10.1)	5(12.2)	93(15.4)
No	59(60.8)	51(76.1)	64(79.0)	67(74.4)	194(85.1)	32(78.0)	467(77.2)
Not Applicable	7(7.2)	1	8(9.9)	13(14.4)	11	4(9.8)	44(7.3)
Total	97(100.0)	67(100.0)	81(100.0)	90(100.0)	228(100.0)	41(100.0)	605(100.0)
13. Emergency Calls							
Yes	50(51.5)	19(28.4)	16(19.5)	5(5.5)	57(24.9)	12(29.3)	159(26.2)
No	42(43.3)	48(71.6)	60(73.2)	68(74.7)	156(68.1)	24(58.5)	398(65.6)
Not Applicable	5(5.2)	-	6(7.3)	18(19.8)	16(7.0)	5(12.2)	50(8.2)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
14. Limited Consultative Services:							
Yes	31(32.0)	33(49.3)	34(41.5)	42(46.2)	75(32.8)	12(29.3)	227(37.4)
No	60(61.9)	33(49.3)	43(52.4)	44(48.4)	138(60.3)	26(63.4)	344(56.7)
Not Applicable	6(6.2)	1	5(6.1)	5(5.5)	16(7.0)	3(7.3)	36(5.9)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
15. Limited Professional Growth:							
Yes	37(38.1)	21(31.3)	52(63.4)	54(59.3)	165(72.4)	28(68.3)	357(58.9)
No	52(53.6)	43(64.2)	27(32.9)	35(38.5)	54(23.7)	13(31.7)	224(36.9)
Not Applicable	8(8.2)	3	3	2	9	-	25
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
16. Limited Continuing Education:							
Yes	46(47.6)	26(38.8)	61(74.4)	58(63.7)	176(76.9)	33(80.5)	400(65.9)
No	45(46.4)	40(59.7)	20(24.4)	31(34.1)	49(21.4)	8(19.5)	193(31.8)
Not Applicable	6(6.2)	1	1	2	4	14	
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

(53.6%) and Dentists (64.2%) did not consider limited opportunities for professional growth (variable 15) as a source of dissatisfaction.

Table XXXVI reveals that all groups agreed that six of the selected variables (variables 2, 4, 8, 9, 11, and 12) were not sources of dissatisfaction. Of these variables, most respondents (77.2%) did not regard an excessive amount of work being required to achieve a reasonable income (variable 12) to be a source of dissatisfaction. For the remaining six selected variables (variable 3, 5, 6, 7, 13 and 14), although the total sample did not consider these variables to be sources of dissatisfaction, group opinion varied. For example, most Physicians perceived a lack of privacy during leisure hours (variable 3) and emergency calls (variable 13) to be sources of dissatisfaction (52.1% and 61.5%, respectively). As well, most Rehabilitation Medicine Therapists perceived that too few peers to relate to socially and intellectually (variable 5) and lack of clinical support facilities and personnel (variable 6) were sources of dissatisfaction (58.2% and 62.2%, respectively).

In summation, four of the sixteen selected variables were considered to be personal sources of dissatisfaction by the major portion of the total sample. Of these variables, most respondents (65.9%) considered limited continuing education opportunities to be a personal source of dissatisfaction. The other variables were scarcity of cultural events and places of entertainment, limited opportunities to specialize, and limited opportunities for professional growth. Of the twelve variables not considered as sources of dissatisfaction by most of the total sample, an excessive amount of work being required to achieve a reasonable income was the variable which had the highest relative frequency (77.2%).

The next section will discuss frequencies of responses on factor which could potentially improve working conditions in rural communities.

4.8 Improving Working Conditions in Small Communities

The frequencies of responses on selected variables that could potentially improve working conditions in respondents' respective locations are presented in Table XXXVII. Respondents were given the opportunity to list any factors, other than the selected variables, which they perceived would potentially improve their working conditions. Edited comments are reported in Appendix E.

An examination of Table XXXVII shows that most respondents were of the opinion that four of the ten selected variables would potentially improve working conditions in their respective locations. These variable comprised additional equipment, additional programs, and greater opportunities for professional growth and participation in continuing education (variables 7 through 10). Most respondents (73.8%) considered that a greater opportunity for continuing education (variable 10) would improve working conditions and the fewest (54%) perceived that additional equipment (variable 7) would improve working conditions. When examining the relative frequencies of each group on these four variables, Table XXXVII shows that a major portion of Dentists did not feel that any of the variables were required to improve working conditions. As well, as major portion of Physicians did not feel that additional programs (variable 8) or greater opportunities for professional growth (variable 9) were required to improve working conditions

TABLE XXXVII

Potential Improvement of Working Conditions by Health Care Group
Actual Number (Proportion %)

FACTORS TO IMPROVE WORKING CONDITIONS	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
1. Access to Specialists:							
Yes	39(40.2)	29(43.3)	30(36.6)	47(51.6)	83(36.9)	8(19.5)	236(39.1)
No	46(47.4)	31(46.3)	33(40.2)	32(35.2)	99(44.0)	22(53.7)	263(43.6)
Not Applicable	12(12.4)	7(10.4)	19(23.2)	12(13.2)	43(19.1)	11(26.8)	104(17.2)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	225(100.0)	41(100.0)	603(100.0)
2. Access to General/Family Practitioners:							
Yes	11(11.3)	9(13.4)	15(18.3)	16(17.6)	28(12.2)	5(12.2)	84(13.8)
No	69(71.1)	47(70.1)	50(61.0)	55(60.4)	138(60.3)	24(58.5)	383(63.1)
Not Applicable	17(17.5)	11(16.4)	17(20.7)	20(22.0)	63(27.5)	12(29.3)	140(23.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
3. Availability of Relief Personnel:							
Yes	36(37.1)	24(35.8)	35(42.7)	46(50.5)	92(40.2)	19(46.3)	252(41.5)
No	50(51.5)	36(53.7)	32(39.0)	30(33.0)	102(44.5)	20(48.8)	270(44.5)
Not Applicable	11(11.3)	7(10.4)	15(18.3)	15(16.5)	35(15.3)	2	85(14.0)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
4. Support Facilities:							
Yes	28(28.9)	20(29.9)	16(19.5)	3	35(15.3)	1	103(16.9)
No	54(55.7)	35(52.2)	41(50.0)	48(52.7)	99(43.2)	22(53.7)	299(49.3)
Not Applicable	15(15.5)	12(17.9)	25(30.5)	40(44.0)	95(41.5)	18(43.9)	205(33.8)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(33.8)
5. Hospitals or Hospital Additions:							
Yes	34(35.1)	14(20.9)	21(25.6)	13(14.3)	79(34.5)	14(34.1)	175(28.8)
No	51(52.6)	41(61.2)	42(51.2)	43(47.3)	84(36.7)	19(46.3)	280(46.1)
Not Applicable	12(12.4)	12(17.9)	19(23.2)	35(38.5)	66(28.8)	8(19.5)	152(25.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)

TABLE XXXVII (Cont'd)

Potential Improvement of Working Conditions by Health Care Group
Actual Number (Proportion %)

FACTORS TO IMPROVE WORKING CONDITIONS	PHYSICIANS	DENTISTS	REGISTERED NURSES	REHABILITATION MEDICINE THERAPISTS	HYGIENISTS/ TECHNOLOGISTS	DIETICIANS	TOTAL SAMPLE
6. Support Personnel:							
Yes	31(32.0)	19(28.4)	32(39.0)	52(57.1)	92(40.2)	22(53.7)	248(40.9)
No	53(54.6)	38(56.7)	36(43.9)	29(31.9)	98(42.8)	13(31.7)	267(44.0)
Not Applicable	13(13.4)	10(14.9)	14(17.1)	10(11.0)	39(17.0)	6(14.6)	92(15.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
7. Additional Equipment:							
Yes	50(51.5)	14(20.9)	45(54.9)	50(54.9)	149(65.1)	20(48.8)	328(54.0)
No	40(41.2)	40(59.7)	28(34.1)	39(42.9)	65(28.4)	18(43.9)	230(37.9)
Not Applicable	7(7.2)	13(19.4)	9(11.0)	2	15(6.6)	3(7.3)	49(8.1)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	229(100.0)	41(100.0)	607(100.0)
8. Additional Programs:							
Yes	37(38.1)	13(19.4)	58(70.7)	58(63.7)	157(69.2)	22(53.7)	354(57.0)
No	52(53.6)	41(61.2)	17(20.7)	31(34.1)	50(22.0)	16(39.0)	107(34.2)
Not Applicable	8(8.2)	13(19.4)	7(8.5)	2	20(8.8)	3(7.3)	53(8.8)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	227(100.0)	41(100.0)	605(100.0)
9. Opportunities for Professional Growth:							
Yes	43(44.3)	25(37.3)	57(69.5)	67(73.6)	172(75.4)	34(82.9)	398(65.7)
No	47(48.5)	32(47.8)	20(24.4)	21(23.1)	41(18.0)	5(12.2)	166(27.4)
Not Applicable	7(7.2)	10(14.9)	5(6.1)	3	15(6.6)	2	42(6.9)
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)
10. Opportunities for Continuing Education:							
Yes	48(49.5)	29(43.3)	67(81.7)	72(79.1)	193(84.6)	38(92.7)	447(73.8)
No	43(44.3)	31(46.3)	12(14.6)	15(16.5)	27(11.8)	3(7.3)	131(21.6)
Not Applicable	6(6.2)	7(10.4)	3	4	8	-	28
Total	97(100.0)	67(100.0)	82(100.0)	91(100.0)	228(100.0)	41(100.0)	606(100.0)

(53.7% and 48.5%, respectively). The major portion of all other groups perceived that variables 7 through 10 would improve working conditions.

A major portion of the total sample reported that variables 1 through 6 would not improve working conditions in their respective locations. Most respondents (63.1) considered that access to general/ family practitioners (variable 2) would not improve working conditions and the fewest (43.6%) perceived that access to specialists (variable 1) would not improve working conditions. An examination of relative frequencies of each group on these variables reveals that a major portion of each group perceived that access to general/family practitioners (variable 2), support facilities (variable 4), and hospitals or additions to hospitals (variable 5) were not required to improve working conditions. For the remaining three variables, a major portion of certain groups were of the opinion that the variables would improve working conditions. Specifically, 1) most Rehabilitation Medicine Therapists (51.6%) felt that access to specialists (variable 1) would improve working conditions, 2) a major portion of Registered Nurses (42.7%) and most Rehabilitation Medicine Therapists (50.5%) perceived that availability of relief personnel (variable 2) would improve working conditions, and 3) most Rehabilitation Medicine Therapists (57.1%) and Dieticians (53.7%) reported that support personnel (variable 6) would improve conditions.

An overview of frequencies of responses on selected variables that could potentially improve working conditions in respondents' respective locations indicates that most respondents (73.8%) considered that working conditions would improve with a greater opportunity for continuing education. Of the variables not considered by a major portion of respondents to be potential sources of improving working conditions, access to general/family practitioners was the variable which had the highest relative frequency (63.1%).

General comments regarding 1) the adequacy of professional training and continuing education for rural health professionals, and 2) the attraction and retention of health personnel to rural communities are highlighted in the following section.

4.9 General Comments

Respondents were given the opportunity to comment on 1) the adequacy of professional training and continuing education for health personnel who work in small Alberta communities, and 2) attracting and retaining health professionals to small Alberta communities. Respondents' comments are highlighted in this section with actual edited comments presented in Appendix E.

4.9.1 Adequacy of Professional Training and Continuing Education for Rural Health Professionals

As expected, opinions varied on the adequacy of professional training and continuing education for rural health professionals. Training and upgrading were considered to be adequate by some respondents and inadequate by others.

Inadequacies were considered to evolve from a number of sources. These included a need for 1) special training for Physicians in areas of anaesthesia, general surgery, obstetrics, and orthopaedic surgery; 2) special training in emergency procedures and obstetrics for Registered Nurses; 3) special training in public/community health for Dental

Hygienists; 4) rural practicums; and 5) consultants to be more sensitive to the requirements of health professionals in rural areas.

In general, respondents, who considered training and continuing education to be adequate, were of the opinion that individuals in rural communities were ultimately responsible for their own professional proficiencies. Some respondents commented that recent graduates were well trained but had to be also self-motivated to succeed in rural areas. With regards to continuing education, others commented that, if an individual was sufficiently motivated, access to continuing education was not a problem. It was also suggested that it would be beneficial if recent graduates initially practiced under the guidance of experienced rural health professionals.

4.9.2 Attracting and Retaining Alberta Rural Health Professionals

Respondents were either of the opinion that certain strategies could be employed to attract and retain individuals in rural areas or that little could be done to address the issue.

Strategies that were suggested impacted upon the government, education system, and rural communities themselves. Suggestions put forth included 1) financial incentives, 2) a need to improve salaries and provide relief staff to handle heavy work loads, 3) a need for updated, modern equipment, 4) a need to change the attitude about rural health in training programs 5) the promotion of the concept of rural health within the education system, and 6) the need for rural communities to 'sell' their attributes and provide attractive amenities for health professionals.

Respondents who were of the opinion that little could be done to address the attraction and retention of health professionals to rural areas reported that people had to enjoy living in small communities and appreciate the lifestyle in order to settle, and remain in, such areas. Many of these respondents commented that it was difficult to retain single people in a small community and that many individuals settled in rural areas due to the spouses' job situation. Therefore, their settlement and/or relocation would ultimately depend on personal factors rather than professional considerations.

4.10 Summary

The results of the descriptive analyses of the six surveys were presented and discussed in this chapter. Open-ended comments were edited and general comments highlighted. The findings and conclusions of those analyses and subsequent recommendations are presented in the following chapter.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

In Chapter V, a summary of the study is presented, major findings and conclusions based upon data analyses are discussed, and recommendations are set forth.

5.1 Summary of the Study

Comprehensive health care in rural Alberta requires, in part, that an adequate number of competent health professionals locate in rural communities. There has been limited research which comprehensively investigated both the attraction and retention of rural health professionals in Alberta and the adequacy of the professional education and continuing education for such individuals. To obtain further information on these areas of interest the Working Party on Education, which was formed by the Conference on Rural Health Care in Alberta, decided that it was necessary to solicit opinions from health education institutions, rural health employees, and individuals who work and reside in rural areas of Alberta. This study was undertaken to obtain information from various health professionals in rural Alberta as suggested by the Working Party. More specifically, the research was designed to (1) identify factors which influence the attraction and retention decisions of health practitioners working in rural areas, and (2) asssess the perceived adequacy of health education and upgrading for rural health personnel. Results of the study could potentially facilitate health planning by contributing to the development of strategies which would attract and retain rural health professionals, as well as improve the effectiveness of training and upgrading for such individuals.

A review of selected literature indicated that previous studies on rural health professionals focused primarily on physicians and infrequently investigated other health professionals. As well, researchers seldom simultaneously investigated location decision factors and the adequacy of health education. These limitations necessitated the development of a research strategy and instrument which would address the specific objectives of this study.

The decision was made to utilize a mail questionnaire survey to obtain information from rural health professionals. As stipulated by the definition of rural (see Chapter I), rural health professionals included those individuals residing and working in Alberta communities of less than 30,000 residents with no specification of the distance of these communities from more populated centres. The target population was defined as all health professionals practicing and residing in rural Alberta at the time of the study and was limited to professions as determined by the Working Party on Education of the Conference on Rural Health Care. Furthermore, for practicality reasons, the selection criteria for the study population required that eligible members of the health professions must be in one of the sub-populations as specified by selected sampling frames (see Table IV, Chapter III). Once the study population was defined, probability samples of General/Family Practitioners, Dentists, and Registered Nurses were selected. No sampling of the remaining professions was involved because of small population size.

From a total study population size of 6,394 rural health professionals, a total sample size of 959 was selected.

Available, published questionnaires were modified to meet the objectives of the study. Items and variables included in the questionnaire were selected based on the literature review, comments from members of the Working Party on Education of the Conference on Rural Health Care, and the investigator's judgment. Due to the heterogeneous nature of the study population, the population was stratified into six health groups with a discipline-specific questionnaire developed for each group. An acceptable level of face validity of the questionnaires was established by reviewing feedback from (1) content area experts invited to examine the draft questionnaires, and (2) pretest respondents selected from corresponding health professions. Subsequently, questionnaires were distributed to 959 rural health professionals and follow-up procedures were also undertaken to improve the response rate.

A total of 607 usable questionnaires were returned representing an adjusted overall response rate of 70.7 per cent. Based on survey responses, (1) respondents' background characteristics were identified. (2) the perceived adequacy of professional training and continuing education for rural health professionals was observed, (3) the relative important of selected location decision variables was analyzed, (4) potential sources of satisfaction and dissatisfaction derived from working in rural communities were determined, and (5) factors which could potentially improve rural working conditions were identified. As well, open-ended comments were edited and reviewed.

Pertinent findings from the study are presented in the following section.

5.2 Major Findings

Major findings in this section are based on analysis of survey responses.

1. The analysis of respondents' and spouses' 'place of rearing' confirmed the expected finding that most respondents in each health group, as well as most spouses, had resided in a rural community for the major portion of years (6 years or more) between the ages of 7 and 18.
2. Although most health professionals intended to stay in their present location for the near future, it was interesting to find that those individuals who planned to move intended to relocate to a metropolitan community of more than 30,000 residents.
3. Relocation decisions for the female-dominated health groups were based primarily on personal matters; whereas, such decisions for Physicians and Dentists were related primarily to work matters.
4. As expected, training in or exposure to selected professional/technical skills varied across the six health groups. In general, most health professionals had not been trained in or exposed to management skills, teaching skills, assets and liabilities of a small hospital, working with other health care disciplines, and using a wide range of community health services.
5. Participation in continuing education was most significantly limited by distance and travel time. Other significant barriers

to participation were family responsibilities, personal cost of travel and fees, and employers' small budgets for education.

6. As expected, a high preference was expressed for methods of presenting continuing education which would offer upgrading at local levels, e.g., outreach courses, travelling consultants, and self-instruction materials. In contrast, it was interesting to find that, although distance and travel time was considered to significantly limit participation in continuing education, a high preference was expressed for one or two day urban workshops.

7. In general, location decision variables which were influential in attracting individuals to rural areas may be categorized as: personal or background charactersitics including influence of spouse and influence of 'place of rearing'; professional considerations including a good community hospital, the prospect of building a busy practice earlier, and joining a group practice, and; community characteristics comprised of the idea of small community living and close proximity to a major cultural and shopping centre.

8. The results indicated that respondents' overall sources of satisfaction are represented best by the following: quality of small, community living; opportunity to work in a small, cohesive environment; autonomy or independence in work; quality of the professional-client relationship; feeling of being wanted or needed; work responsibilities providing more challenge than in a large community; work providing exposure to a variety of

clients and experiences, and; for Physicians, the opportunity to participate in a group practice. In contrast, it was interesting to find that lower costs of living or maintaining a practice were not sources of satisfaction and that, in fact, many claimed that these costs were higher than in larger centres.

9. Overall, the most significant source of dissatisfaction in rural communities was limited opportunities to attend continuing education programs. Other sources of dissatisfaction were limited and were comprised of: scarcity of cultural events and places of entertainment; limited opportunities to specialize, and; limited opportunities for professional growth. It was interesting to find that Physicians did not consider limited opportunities for professional growth or continuing education to be dissatisfactory but did feel that lack of privacy during leisure hours and emergency calls were sources of dissatisfaction. It was also interesting to find that, in general, heavy workloads and inadequate time off work were not sources of dissatisfaction.

10. Analysis revealed that factors which would potentially improve working conditions were related to sources of dissatisfaction and are represented best by greater opportunities for professional growth and greater opportunities for participation in continuing education.

5.3 Conclusions

Based on the data analyses and major findings, conclusions were drawn and are discussed below.

1. It appears that there is a direct relationship between the rural 'place of rearing' of the health professionals in this study and their spouses and their rural practice location. However, although a rural 'place of rearing' might influence an individual's decision to locate in a rural community, it seems that this variable alone might not be sufficient to compel such individuals to remain in rural settings.
2. Given the findings on relocation decisions, it appears that strategies intended to attract/retain rural health professionals might have a more significant impact upon male-dominated professions such as Physicians and Dentists.
3. Although group results were mixed, it seems that health education for rural health professionals is deficient in certain professional/technical skill areas.
4. It is evident that, except for Physicians and Dentists, continuing education accessibility is a major problem for rural health professionals. Barriers to participation in continuing education are the type that might be reduced by financial assistance and/or the provision of continuing education in rural centres.
5. Except for a high preference for one or two day urban workshops, preferences for methods of presenting continuing education also appear to support the provision of continuing education in rural

centres. Familiarity with one or two day urban workshops and the opportunity they provide for professional and social interaction seem to outweigh the distance, financial, and time commitments required.

6. Apparently, the decision to locate in rural communities is influenced by a number of interrelated personal, professional, and community characteristics. Although group results were mixed, (1) personal location decision factors might further support a direct relationship between the 'place of rearing' of the health professional and spouse and practice location, (2) professional considerations suggest that professional support in the form of a good community hospital and group practice is important to individuals who locate in rural areas, and (3) the importance of community characteristics suggest that the setting in which a rural health professional works also has an impact on location decisions.

7. As most respondents considered the idea of small community living to be an important location decision variable, it appears that a predisposition to small community living might be essential for health professionals to be attracted to rural areas.

8. It appears that sources of satisfaction for rural health professionals evolve from a combination of professional and community characteristics unique to rural centres. Apparently, for Physicians, group practice not only influences location

decisions but also provides a source of satisfaction which might influence the retention of practitioners.

9. It is evident that dissatisfaction of health professionals in rural settings might be appreciably reduced by increasing opportunities for professional growth and for continuing education.

10. It is also evident that greater opportunities for continuing education and professional growth would improve rural working conditions. This reinforces the importance that continuing education and professional growth play in providing a satisfactory rural work environment.

5.4 Recommendations

Factors influencing the competence and location decisions of health professionals are complex and represent an interrelationship among personal, professional, and community characteristics. Consequently, strategies designed to influence health planning in rural areas require a combined effort from educational institutions, government agencies, and rural communities. While realizing that these interrelationships exist, discussion in this section has been facilitated by grouping recommendations into four categories.

Educational institutions which train health care disciplines included in this study should:

1. Consider admission policies which would give special consideration to applicants with rural backgrounds and especially to those applicants whose spouses also have rural backgrounds.

2. Evaluate and modify curriculums which would stimulate an interest in rural health, address identified training deficiencies, and provide opportunities for exposure to rural work environments, with special consideration given to rural guest lecturers presenting the attributes of rural practice and community living.

3. Determine those training deficiencies which would be more appropriately addressed by continuing education than by alteration of curriculums.

4. In conjunction with health care employers, government agencies, and professional associations, retain one or two day urban workshops as a method of offering continuing education to rural health professionals and, at the same time, provide decentralized continuing education to rural centres.

Government agencies should consider the implementation of strategies which would:

5. Foster professional support in rural communities to include group practice settings, community hospitals, and availability of consultative services.

6. Provide direct financial assistance to attract health professionals to rural areas.

7. Provide financial assistance to rural health employers in order to subsidize continuing education programs.

Rural communities, themselves, should play a role in attracting and retaining health professionals by:

8. Providing desireable professional and community facilities.

9. Developing dynamic recruitment campaigns which would feature local amenities.

Further research should be conducted to:

10. Obtain information on rural health from health educators and rural health employers.

11. Gather information on health care in rural areas from rural community members and rural consumers of health services.

12. Investigate the attitudes and opinions of current health education students towards practicing in rural areas of Alberta.

13. Compare attitudes and opinions of health professionals located in rural versus urban communities in Alberta.

Further research would provide additional information which could be utilized to facilitate health planning for rural areas of Alberta.

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APPENDIX A: PHYSICIAN DRAFT QUESTIONNAIRE

A. BACKGROUND INFORMATION

For each of the following questions, please check (√) the most appropriate response in the space provided.

A-1 What is your sex?

1. _____ Male 2. _____ Female

A-2 What is your age category?

1. _____ 25 or younger
2. _____ 26 to 35
3. _____ 36 to 45
4. _____ 46 to 55
5. _____ 56 or older

A-3 What is/was your marital status?

	Single (never married)	Married (including common-law)	Separated or Divorced	Widowed
Present				
When you began working as a health care professional in your present location.				
When you first began working as a health care professional in a community of less than 25,000 residents.				

A-4 What is your present health care professional status? (*check (√) only one response*)

1. _____ Certified College of Family Physicians.
2. _____ Certified Specialist (please specify specialty and granting body) ______________________________
3. _____ M.D. or M.B. only
4. _____ Other (please specify) ______________________

A-5 Where did you receive the major portion of your training to obtain your present health care professional status, as stated in A-4?

1. _____ Alberta
2. _____ Canadian province other than Alberta (please specify province)
____
3. _____ Country other than Canada (please specify location)
____

A-6 In what age group were you when you obtained your present health care professional status, as stated in A-4?

1. _____ 25 or younger
2. _____ 26 to 35
3. _____ 36 to 45
4. _____ 46 to 55
5. _____ 56 or older

For each of the following questions, please respond in the spaces provided.

A-7 In what year did you obtain your present health care professional status, as stated in A-4?

1 9 ☐ ☐

A-8 Between the ages of 7 and 18, what was the approximate length of time (in years) that you resided in one or more of the following communities? (*If appropriate complete more than one response*).

☐☐ years in a community of less than 5,000 residents
☐☐ years in a community of 5,000 to 10,000 residents
☐☐ years in a community of 10,000 to 20,000 residents
☐☐ years in a community of 20,000 to 30,000 residents
☐☐ years in a community of greater than 30,000 residents.

A-9 Between the ages of 7 and 18, what was the approximate length of time (in years) that your spouse resided in one or more of the following communities? (*If appropriate, complete more than one response*).

☐☐ years in a community of less than 5,000 residents
☐☐ years in a community of 5,000 to 10,000 residents
☐☐ years in a community of 10,000 to 20,000 residents
☐☐ years in a community of 20,000 to 30,000 residents
☐☐ years in a community of greater than 30,000 residents.
☐ Not Applicable (check if not presently married)

A-10 What is the approximate size of community in which you are presently working?

☐☐☐,☐ 0 0 residents

A-11 From the following list of cities, please check (✓) the one city which is closest, in driving kilometers to your present work location.

1. _____ Fort McMurray
2. _____ Grande Prairie
3. _____ Edmonton
4. _____ Red Deer
5. _____ Calgary
6. _____ Lethbridge
7. _____ Medicine Hat

A-12 Approximately how many driving kilometers is your present work location from the city you indicated as closest to you in A-11?

☐☐☐ driving kilometers

A-13 Which of the following best describes your employment status?

1. _____ Self-employed
2. _____ Employed by another individual or organization/institution
3. _____ Other (please specify) ______________________________

A-14 Which of the following best describes the type of organizational structure under which you work?

1. _____ solo/private practice
2. _____ group/clinic practice
3. _____ active treatment hospital
4. _____ auxiliary hospital
5. _____ health unit
6. _____ home care services
7. _____ other (please specify) ______________________________

A-15 From the following list of procedures, please check (✓) the procedure(s) which you carry out as part of your work activities. (*You may check (✓) more than one procedure. Do not include procedures at which you assist a surgeon*).

1. _____ minor surgery
2. _____ deliveries
3. _____ major abdominal surgery including caesarian
4. _____ anaesthetics
5. _____ closed reduction of fractures
6. _____ others (please specify) ______________________________

For each of the following questions, please respond in the spaces provided.

A-16 Usually, how many hours per week do you spend on work-related activities (including clinical, therapeutic, administrative)?

☐☐ Hours per week

A-17 On average, how many hours are you on call in a one-week period?

☐☐ Hours per week

A-18 How many years have you been working as a health care professional in your present community?

☐☐.☐ Year(s)

For the following question, please check (√) the most appropriate response in the space provided.

A-19 What is the probability of your remaining in your present community in the near future?

1. _____ Almost sure to stay (Go to Section B)
2. _____ Probably will stay (Go to Section B)
3. _____ Uncertain (Go to Section B)
4. _____ Likely to move
5. _____ Certain to move

If response to A-19 was 'likely to move' or 'certain to move' complete the remaining three questions by responding in the spaces provided.

A-20 When do you foresee a move out of your present community?

☐.☐ Year(s) from now

A-21 To what size of community do you foresee yourself moving?

1. _____ to a community of less than 25,000 residents
2. _____ to a community of more than 25,000 residents

A-22 Please specify the primary reason for your decision to move:

____

____

____

B. PROFFESSIONAL TRAINING

IN THIS SECTION WE WOULD LIKE TO KNOW YOUR GENERAL OPINION TOWARD HEALTH CARE PROFESSIONAL TRAINING PROGRAMS.

For each of the following questions, please check (√) the most appropriate response in the space provided.

B-1 From your experience, how different are the professional skills required for and the demands of rural health care from those of urban health care?

1. _____ Very different
2. _____ Different in some aspects
3. _____ Not different at all
4. _____ Undecided

B-2 When you received your professional health care education, how adequate was the curriculum in preparing you for work in a small community?

1. _____ Adequate for all work demands
2. _____ Adequate for most work demands
3. _____ Adequate for only some work demands
4. _____ Totally inadequate for work demands
5. _____ Undecided

B-3 During your professional health care education, for what length of time did you participate in a rural practice experience where you were exposed to health care in a rural setting?

1. _____ no time spent in a rural practice experience
2. _____ 14 days or less
3. _____ 15 days to 31 days
4. _____ more than 31 days

B-4 How beneficial do you feel a rural practice experience is in preparing individuals in your health care profession for work in a rural setting?

1. _____ very beneficial
2. _____ slightly beneficial
3. _____ has no effect
4. _____ undecided about its benefit

B-5 How adequate is the present Alberta curriculum in preparing individuals in your profession for work in small communities?

1. _____ Adequate for all work demands (Go to B-7)
2. _____ Adequate for most work demands
3. _____ Adequate for only some work demands
4. _____ Totally inadequate for work demands
5. _____ Don't know (Go to B-7)

B-6 If 'adequate for most/only some demands' or 'totally inadequate for work demands', how should the present professional training curriculum in Alberta be altered to more adequately prepare individuals in your health care field to work in a small community?

1. _____ By a change in the curriculum content offered directly at the educational site
2. _____ By the provision of 'rural practice experience' programs
3. _____ By both a change in the curriculum content offered directly at the educational site and the provision of 'rural practice experience' programs
4. _____ It should not be altered
5. _____ Don't know how it should be altered

IN ORDER TO PROVIDE COMPREHENSIVE PATIENT CARE IN A RURAL SETTING, HEALTH CARE PROFESSIONALS MAY REQUIRE SPECIFIC TRAINING IN AND/OR EXPOSURE TO CERTAIN FACTORS.

Please be sure to complete both question B-7 and B-8.

B-7 Did you receive training in and/or exposure to the following factors? (*Check* (✓) *the most appropriate response*).				B-8 Indicate for each of the following factors whether or not you consider it important in terms of adequately preparing individuals in your profession for work in a small community. (*Check* (✓) *the most appropriate response*)		
Yes	No	Not applicable to my profession	FACTORS	Important	Not important	Not applicable to my profession
			1. counseling of patients and family			
			2. preventive care			
			3. surgical training (if in family or general practice)			
			4. primary care training (if in a specialty)			
			5. handling of emergency procedures			
			6. ability to diagnose and/or treat patients without backup of a wide range of technological resources			
			7. management skills, including office practise and administration of staff			
			8. teaching/inservice skills			
			9. assets/liabilities of a small hospital			
			10. the mechanisms for obtaining specialty referrals and consultations for patients			
			11. working with other health care disciplines in the community			
			12. using a wide range of community services involved in health care (e.g. public health, nursing homes, family planning)			

B-9 Please list any factor(s), not previously mentioned, which you feel is (are) important in adequately preparing professionals in your health care discipline for work in a small community.

____

____

____

____

C. CONTINUING EDUCATION

IN THIS SECTION WE WOULD LIKE TO KNOW YOUR OPINION OR ATTITUDE TOWARD CONTINUING EDUCATION FOR HEALTH CARE PROFESSIONALS WORKING IN SMALL COMMUNITIES.

For each of the following questions, check (√) the most appropriate response in the space provided.

	Yes	No	No Comment
C-1 Is continuing education important to you professionally?			
C-2 Do you subscribe to any professional journal(s)?			
C-3 Have you attended any continuing education courses in the past year?		(Go to C-5)	(Go to C-6)

C-4 If answer to C-3 was 'Yes', please list the following information for each course attended in the past year: (complete then Go to C-6)

Name of Course	Type (e.g. conference, seminar, workshop)	Duration in hours with 1 full day course equal to 6 hours	Location

C-5 If answer to C-3 was 'No', what was the major reason for not attending any continuing education courses in the past year?

1. _____ Unable to get time off from work
2. _____ Unable to personally finance cost
3. _____ Courses offered were not suitable for my professional needs
4. _____ Other (please specify) ______________________________

For each of the following statements, check (√) the most appropriate response in the space provided.

	Agree	Disagree	Undecided
C-6 Access to continuing education is a major problem/concern for rural health care professionals, in general			
C-7 Access to continuing education is a major problem for individuals in your profession who work in rural areas			
C-8 Access to continuing education is a major problem for you, personally			

CERTAIN FACTORS MAY BE CONSIDERED AS BARRIERS WHICH LIMIT THE PARTICIPATION OF RURAL HEALTH CARE PROFESSIONALS IN CONTINUING EDUCATION PROGRAMS.

	C-9 Indicate for each of the following factors whether or not it is or has been significant in limiting your participation in continuing education programs? (*Check (√) the most appropriate response*).		
BARRIERS TO PARTICIPATION IN CONTINUING EDUCATION PROGRAMS	Significant	Not Significant	No Comment
1. the distance that must be travelled and travel time required to attend courses			
2. family responsibilities			
3. coverage for job responsibilities is not readily available			
4. personal cost of travel and fees for course			
5. cost of travel and fees are not provided by employers			
6. employers are restricted by small budgets for education			
7. employers do not encourage participation in continuing education			
8. continuing education courses that are offered fail to meet your specific professional needs			
9. continuing education programs offered by urban hospitals are scheduled at times which are inconvenient for rural health care professionals			
10. insufficient notification and inadequate publicity for continuing education courses being offered			
11. varying motivation (interest/disinterest) to participate in continuing education programs			

C-10 Please list any factor(s), not previously mentioned, which you feel significantly limit(s) your participation in continuing education programs.

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VARIOUS METHODS MAY BE UTILIZED TO MAKE CONTINUING EDUCATION PROGRAMS ACCESSIBLE TO HEALTH CARE PROFESSIONALS IN SMALL COMMUNITIES.

C-11 *Rank the following methods of presenting continuing education programs in order of your personal preference. In the space provided, respond using the numbers 1 to 9 where 1= the method in which you would most prefer to participate and 9= the method in which you would least prefer to participate. (Use all numbers from 1 to 9; do not use any number more than once.*

____ one or two day workshops in an urban centre
____ short (e.g. 4 hour) courses in an urban centre
____ evening series in an urban centre
____ consultants travelling to small communities
____ on-site or outreach courses in small communities
____ self-instructional materials such as video-tapes, educational television
____ correspondence course such as offered by Athabasca University
____ teleconferences
____ sabbaticals (e.g. two weeks per year) specifically for study purposes

C-12 List other methods that you feel could be utilized to effectively provide continuing education to health care professionals in small communities.

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C-13 In relation to your specific professional needs, identify continuing education subjects that you would like to see offered.

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IN SECTIONS D, E, F, AND G WE WOULD LIKE TO DETERMINE THE RELATIVE IMPORTANCE OF VARIOUS FACTORS THAT MIGHT ATTRACT HEALTH CARE PROFESSIONALS TO SMALL COMMUNITIES, AS WELL AS INFLUENCE THEM TO EITHER REMAIN IN OR LEAVE SUCH COMMUNITIES.

D. ATTRACTION OF HEALTH CARE PROFESSIONALS TO SMALL COMMUNITIES

LOCATION DECISION FACTORS	D-1 Indicate for each of the following factors whether or not it was important in influencing your decision to locate in your present community? (*Check* (✓) *the most appropriate response*).		
	Important	Not Important	Not Applicable
1. Influence of spouse			
2. Influence of parents or relatives			
3. Influence of an acquaintance or friend			
4. Influence of colleagues and professors during training			
5. Influence of the size of community in which you primarily resided between the ages of 7 and 18			
6. Professional school curriculum was related to rural area health care			
7. Exposure to rural health care by participation in a rural practice experience during training			
8. The idea of small community living			
9. The prospect of being more influential in community affairs			
10. Close (one hour) proximity to a major cultural & shopping centre			
11. Assistance in cost of capital investment of establishing your practice.			
12. Advertisements in professional journals			
13. The prospect of building a busy practice earlier			
14. There was a need in the community for an individual with your professional expertise			
15. The opportunity to work with another established practitioner as a partner			
16. The challenge of working in a small community possibly lacking complete facilities			
17. A good community hospital			
18. A medical centre in a nearby large city			
19. The opportunity to join a group practice.			

D-2 Please list any factor(s) not previously mentioned, which you feel was (were) important in influencing your decision to locate in your present community.

E. RETENTION OF HEALTH CARE PROFESSIONALS IN SMALL COMMUNITIES

	E-1 Please indicate whether the following factors are personal sources of satisfaction in your present location? *(Check (√) the most appropriate response).*		
SOURCES OF SATISFACTION	Yes	No	Not Applicable
1. Quality of small community living (relaxed, slow pace)			
2. Lower cost of living			
3. Community prestige and opportunities for community leadership			
4. Opportunity to work in a small, cohesive work environment			
5. Autonomy or independence in work			
6. Quality of the professional-client relationship			
7. Lower costs of maintaining a practice			
8. Opportunity to participate in a group practice			
9. Positive financial incentives derived from work			
10. Feeling of being wanted or needed			
11. Opportunities for professional leadership			
12. Opportunities to know the families of patients			
13. Availability of clinical support facilities			
14. Work responsibilities provide more challenge than might be available in a large community			
15. Work provides exposure to a variety of clients and experiences			
16. Opportunity to determine hours of work			
17. Opportunity to work on a part-time basis (e.g. 20 hours per week)			

E-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of satisfaction in your present location.

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F. MOVEMENT OF HEALTH CARE PROFESSIONALS OUT OF SMALL COMMUNITIES

	F-1 Please indicate whether the following factors are personal sources of dissatisfaction in your present location? (*check (✓) the most appropriate response*)		
SOURCES OF DISSATISFACTION	Yes	No	Not Applicable
1. Scarcity of cultural events and places of entertainment			
2. Lack of adequate schools in the area for children			
3. Lack of privacy, during leisure hours, for my family and/or myself			
4. Lack of health care training or experience required to work in a small community			
5. Too few peers to relate to socially and intellectually			
6. Lack of clinical support facilities and personnel			
7. Workload is too heavy			
8. Difficult to get adequate time off from work			
9. Difficult to get away from clients and other staff during work			
10. Opportunities to specialize are limited			
11. Community health care resources are limited			
12. Amount of work required to achieve a reasonable income is excessive			
13. Emergency calls are a problem			
14. Nonavailability of consultative services			
15. Opportunities for professional growth are limited			
16. Opportunities to attend continuing education programs are limited.			

F-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of dissatisfaction in your present location.

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G. IMPROVING WORKING CONDITIONS IN SMALL COMMUNITIES

FACTORS TO POTENTIALLY IMPROVE WORKING CONDITIONS	G-1 Indicate for each of the following factors whether or not it would potentially improve working conditions for you in your present location (*check (✓) the most appropriate response*).		
	Yes	No	Not Applicable
1. Access to specialists (if response is "yes", please specify) ____________ ____________			
2. Access to general and family practitioners			
3. Availability of relief personnel to provide adequate time off work			
4. Support facilities such as laboratories and emergency rooms			
5. Hospitals and/or additions to hospitals			
6. Support personnel			
7. Additional equipment			
8. Additional programs			
9. Greater opportunities for professional growth			
10. Greater opportunities to adequately participate in continuing education			

G-2 Please list any factor(s), not previously mentioned, which you feel would potentially improve working conditions for you in your present location.

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H. GENERAL COMMENTS

H-1 Do you have any comments about the adequacy of professional training and continuing education for health care personnel in your profession who work in small Alberta communities?

H-2 Do you have any general comments about attracting and retaining health care personnel in your profession to small Alberta communities?

THANK YOU FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE. PLEASE ENCLOSE IN THE ACCOMPANYING ENVELOPE AND MAIL.

APPENDIX B: CORRESPONDENCE TO PRETEST RESPONDENTS

August 15, 1984

Dear

Thank you for agreeing to participate in a pilot study of this questionnaire. After the questionnaire has been tested it shall be used to conduct research for my thesis requirements for the Masters Degree in Health Services Administration.

The primary objective of the study is to survey rural health care professionals to obtain information necessary for effective manpower planning. The questionnaire has been designed to identify 1) background characteristics of selected rural health manpower, 2) the perceived adequacy of professional education in terms of work requirements in rural areas, 3) the perceived adequacy of continuing education for rural health manpower, 4) those factors that influence health care professionals to locate in rural communities, 5) those factors that are a source of satisfaction and dissatisfaction for health care professionals in rural locales, and 6) those factors which could potentially improve the work environment of rural health care professionals.

I would appreciate you completing the questionnaire and providing feedback on the attached sheet. Your comments will be used to modify the questionnaire where necessary before distributing it to selected rural health care personnel.

Confidentiality of your answers in this pilot study is assured. Please return the completed questionnaire and evaluation sheet as soon as possible. A stamped envelope has been provided for your convenience.

Thank you for your cooperation.

Sincerely,

Beverly Rachwalski

QUESTIONNAIRE EVALUATION

1) How long did it take you to complete the questionnaire?

_____ minutes

2) Was the length of time it took to complete the questionnaire

_____ too long _____ too short _____ about right?

3) Please underline any item number where the meaning of the question was not understood. Please comment on what was not understood.

4) Please circle any item number which you felt was inappropriate to your work setting or personal situation.

5) If you feel there are other aspects of professional education and upgrading for health care personnel working in rural settings or other factors which influence the attraction and retention decisions of rural health care professionals which should be included in the questionnaire, please list them here. Additional comments are welcome.

APPENDIX C: REVISED QUESTIONNAIRES USED IN SURVEY

C.1 Prototypical Physician Questionnaire

C.2 Modification of the Prototypical Questionnaire for Other Health Groups

A. BACKGROUND INFORMATION

For each of the following questions, please check (√) the most appropriate response in the space provided.

A-1 What is your sex?

1. ____ Male 2. ____ Female

A-2 What is your age category?

1. ____ 25 or younger
2. ____ 26 to 35
3. ____ 36 to 45
4. ____ 46 to 55
5. ____ 56 or older

A-3 What is/was your marital status?

	Single (never married)	Married (including common-law)	Separated or Divorced	Widowed
Present				
When you began working as a health care professional in your present location.				
When you first began working as a health care professional in a community of less than 25,000 residents.				

A-4 What is your present health care professional status? (*check (√) only one response*)

1. ____ Certified College of Family Physicians.
2. ____ Certified Specialist (please specify specialty and granting body) ____________________
3. ____ M.D. or M.B. only
4. ____ Other (please specify) ____________________

A-5 Where did you receive the major portion of your training to obtain your present health care professional status, as stated in A-4?

1. ____ Alberta
2. ____ Canadian province other than Alberta (please specify province) ____________________
3. ____ Country other than Canada (please specify location) ____________________

Please proceed to reverse side

A-6 In what age group were you when you obtained your present health care professional status, as stated in A-4?

1. _____ 25 or younger
2. _____ 26 to 35
3. _____ 36 to 45
4. _____ 46 to 55
5. _____ 56 or older

For each of the following questions, please respond in the spaces provided.

A-7 In what year did you obtain your present health care professional status, as stated in A-4?

1 9 ☐ ☐

A-8 Between the ages of 7 and 18, what was the approximate length of time (in years) that you resided in one or more of the following communities? (*If appropriate complete more than one response*).

☐ ☐ Years in a community of less than 5,000 residents

☐ ☐ Years in a community of 5,000 to 30,000 residents

☐ ☐ Years in a community of greater than 30,000 residents.

A-9 Between the ages of 7 and 18, what was the approximate length of time (in years) that your spouse resided in one or more of the following communities? (*If appropriate, complete more than one response*).

☐ ☐ Years in a community of less than 5,000 residents

☐ ☐ Years in a community of 5,000 to 30,000 residents

☐ ☐ Years in a community of greater than 30,000 residents.

☐ Not Applicable (*check if not presently married*)

A-10 What is the approximate size of community in which you are presently working?

☐ ☐ ☐, ☐ 0 0 Residents

A-11 From the following list of cities, please check (✓) the one city which is closest, in driving kilometers to your present work location.

1. _____ Fort McMurray
2. _____ Grande Prairie
3. _____ Edmonton
4. _____ Red Deer
5. _____ Calgary
6. _____ Lethbridge
7. _____ Medicine Hat

A-12 Approximately how many driving kilometers is your present work location from the city you indicated as closest to you in A-11?

☐☐☐ Driving kilometers

A-13 Which of the following best describes your employment status?

1. _____ Self-employed
2. _____ Employed by another individual or organization/institution
3. _____ Other (please specify) ______________________________

A-14 Which of the following best describes the type of organizational structure under which you work?

1. _____ Solo/private practice
2. _____ Group/clinic practice
3. _____ Health unit
4. _____ Other (please specify) ______________________________

A-15 From the following list of procedures, please check (✓) the procedure(s) which you carry out as part of your work activities. (*You may check (✓) more than one procedure. Do not include procedures at which you assist a surgeon*).

1. _____ Minor surgery
2. _____ Deliveries
3. _____ Major abdominal surgery including caesarian
4. _____ General or spinal anaesthetics
5. _____ Closed reduction of fractures
6. _____ Endoscopy (please specify) ______________________________
7. _____ Others (please specify) ______________________________

For each of the following questions, please respond in the spaces provided.

A-16 Usually, how many hours per week do you spend on work-related activities (including clinical, therapeutic, administrative)?

☐☐ Hours per week

A-17 On average, how many hours are you on call in a one-week period?

☐☐ Hours per week

A-18 How many years and/or months have you been working as a physician in your present community?

☐☐ Year(s) and ☐☐ Month(s)

Please proceed to reverse side

For the following question, please check (✓) the most appropriate response in the space provided.

A-19 What is the probability of your remaining in your present community in the near future?

1. ____ Almost sure to stay (Go to Section B)
2. ____ Probably will stay (Go to Section B)
3. ____ Uncertain (Go to Section B)
4. ____ Likely to move
5. ____ Certain to move

If response to A-19 was 'likely to move' or 'certain to move' complete the remaining three questions by responding in the spaces provided.

A-20 When do you foresee a move out of your present community?

☐☐ Year(s) or ☐☐ Month(s) from now.

A-21 To what size of community do you foresee yourself moving?

1. ____ To a community of less than 30,000 residents
2. ____ To a community of more than 30,000 residents

A-22 Please specify the primary reason for your decision to move:

____

____

____

B. PROFFESSIONAL TRAINING

IN THIS SECTION WE WOULD LIKE TO KNOW YOUR GENERAL OPINION TOWARD HEALTH CARE PROFESSIONAL TRAINING PROGRAMS.

For each of the following questions, please check (✓) the most appropriate response in the space provided.

B-1 From your experience, how different are the professional skills required for and the demands of rural health care from those of urban health care?

1. ____ Very different
2. ____ Different in some aspects
3. ____ Not different at all
4. ____ Undecided

B-2 When you received your professional health care education, how adequate was the curriculum in preparing you for work in a small community?

1. _____ Adequate for all work demands
2. _____ Adequate for most work demands
3. _____ Adequate for only some work demands
4. _____ Totally inadequate for work demands
5. _____ Undecided

B-3 During your professional health care education, for what length of time did you participate in a rural practice experience where you were exposed to health care in a rural setting?

1. _____ No time spent in a rural practice experience
2. _____ 1 month or less
3. _____ Between 1 and 2 months
4. _____ Longer than 2 months (please specify) ____________________

B-4 How beneficial do you feel a rural practice experience is in preparing individuals in your health care profession for work in a rural setting?

1. _____ Very beneficial
2. _____ Slightly beneficial
3. _____ Has no effect
4. _____ Undecided about its benefit

B-5 How adequate is the present curriculum of Alberta medical schools in preparing individuals in your profession for work in small communities?

1. _____ Adequate for all work demands (Go to B-7)
2. _____ Adequate for most work demands
3. _____ Adequate for only some work demands
4. _____ Totally inadequate for work demands
5. _____ Don't know (Go to B-7)

B-6 If 'adequate for most/only some demands' or 'totally inadequate for work demands', how should the present professional training curriculum in Alberta be altered to more adequately prepare individuals in your health care field to work in a small community?

1. _____ By a change in the curriculum content offered directly at the educational site
2. _____ By the provision of 'rural practice experience' programs
3. _____ By both a change in the curriculum content offered directly at the educational site and the provision of 'rural practice experience' programs
4. _____ It should not be altered
5. _____ Don't know how it should be altered

Please proceed to reverse side

IN ORDER TO PROVIDE COMPREHENSIVE PATIENT CARE IN A RURAL SETTING, HEALTH CARE PROFESSIONALS MAY REQUIRE SPECIFIC TRAINING IN AND/OR EXPOSURE TO CERTAIN FACTORS.

*Please be sure to complete **both** question B-7 and B-8.*

B-7 Did you receive training in and/or exposure to the following factors? (*Check (✓) the most appropriate response*).				B-8 Indicate for each of the following factors whether or not you consider it important in terms of adequately preparing individuals in your profession for work in a small community. (*Check (✓) the most appropriate response*)		
Yes	No	Not applicable to my profession	PROFESSIONAL AND TECHNICAL SKILLS	Important	Not important	Not applicable to my profession
			1. Counseling of patients and family			
			2. Preventive care			
			3. Surgical training (if in family or general practice)			
			4. Primary care training (if in a specialty)			
			5. Handling of emergency procedures			
			6. Ability to diagnose and/or treat patients without backup of a wide range of technological resources			
			7. Management skills, including office practise and administration of staff			
			8. Teaching/inservice skills			
			9. Assets/liabilities of a small hospital			
			10. The mechanisms for obtaining specialty referrals and consultations for patients			
			11. Working with other health care disciplines in the community			
			12. Using a wide range of community services involved in health care (e.g. public health, nursing homes, family planning)			

B-9 Please list any professional and/or technical skills, not previously mentioned, which you feel are important in adequately preparing professionals in your health care discipline for work in a small community.

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C. CONTINUING EDUCATION

IN THIS SECTION WE WOULD LIKE TO KNOW YOUR OPINION ABOUT CONTINUING EDUCATION FOR HEALTH CARE PROFESSIONALS WORKING IN SMALL COMMUNITIES.

For each of the following questions, check (√) the most appropriate response in the space provided.

	Yes	No	No Comment
C-1 Is continuing education important to you professionally?			
C-2 Do you subscribe to any professional journal(s)?			
C-3 Have you attended any continuing education courses in the past year?		(Go to C-5)	(Go to C-6)

C-4 If answer to C-3 was 'Yes', please list the following information for each course attended in the past year: (*complete then Go to C-6*)

Name of Course	Type (e.g. conference, seminar, workshop)	Duration in hours with 1 full day course equal to 6 hours	Location

C-5 If answer to C-3 was 'No', what was the major reason for not attending any continuing education courses in the past year?

1. ____ Unable to get time off from work
2. ____ Unable to personally finance cost
3. ____ Courses offered were not suitable for my professional needs
4. ____ Other (please specify) ______________________

Please proceed to reverse side

For each of the following statements, check (✓) the most appropriate response in the space provided.

	Agree	Disagree	Undecided
C-6 Access to continuing education is a major problem/concern for rural health care professionals, in general			
C-7 Access to continuing education is a major problem for individuals in your profession who work in rural areas			
C-8 Access to continuing education is a major problem for you, personally			

CERTAIN FACTORS MAY BE CONSIDERED AS BARRIERS WHICH LIMIT THE PARTICIPATION OF RURAL HEALTH CARE PROFESSIONALS IN CONTINUING EDUCATION PROGRAMS.

	C-9 Indicate for each of the following factors whether or not it is or has been significant in limiting your participation in continuing education education programs? (*Check (✓) the most appropriate response*).		
BARRIERS TO PARTICIPATION IN CONTINUING EDUCATION PROGRAMS	Significant	Not Significant	No Comment
1. The distance that must be traveled and travel time required to attend courses			
2. Family responsibilities			
3. Coverage for job responsibilities is not readily available			
4. Personal cost of travel and fees for course			
5. Cost of travel and fees are not provided by employers			
6. Employers are restricted by small budgets for education			
7. Employers do not encourage participation in continuing education			
8. Continuing education courses that are offered fail to meet your specific professional needs			
9. Continuing education programs offered by urban hospitals are scheduled at times which are inconvenient for rural health care professionals			
10. Insufficient notification and inadequate publicity for continuing education courses being offered			
11. Varying motivation (interest/disinterest) to participate in continuing education programs			

C-10 Please list any factor(s), not previously mentioned, which you feel significantly limit(s) your participation in continuing education programs.

VARIOUS METHODS MAY BE UTILIZED TO MAKE CONTINUING EDUCATION PROGRAMS ACCESSIBLE TO HEALTH CARE PROFESSIONALS IN SMALL COMMUNITIES.

C-11 Please indicate your level of personal preference for each of the following methods of presenting continuing education programs. (*Circle the most appropriate number where 5 = a high level of personal preference*).

	Low				High
1. One or two day workshops in an urban centre	1	2	3	4	5
2. Short (e.g. 4 hour) courses in an urban centre	1	2	3	4	5
3. Evening series in an urban centre	1	2	3	4	5
4. Consultants travelling to small communities	1	2	3	4	5
5. On-site or outreach courses in small communities	1	2	3	4	5
6. Self-instructional materials such as video-tapes, educational television	1	2	3	4	5
7. Correspondence course such as offered by Athabasca University	1	2	3	4	5
8. Teleconferences	1	2	3	4	5
9. Sabbaticals (e.g. two weeks per year) specifically for study purposes	1	2	3	4	5

C-12 List other methods that you feel could be utilized to effectively provide continuing education to health care professionals in small communities.

C-13 In relation to your specific professional needs, identify continuing education subjects that you would like to see offered.

Please proceed to reverse side

IN SECTIONS D, E, F, AND G WE WOULD LIKE TO DETERMINE THE RELATIVE IMPORTANCE OF VARIOUS FACTORS THAT MIGHT ATTRACT HEALTH CARE PROFESSIONALS TO SMALL COMMUNITIES, AS WELL AS INFLUENCE THEM TO EITHER REMAIN IN OR LEAVE SUCH COMMUNITIES.

D. ATTRACTION OF HEALTH CARE PROFESSIONALS TO SMALL COMMUNITIES

	D-1 Indicate for each of the following factors whether or not it was important in influencing your decision to locate in your present community? (*Check (√) the most appropriate response*).		
LOCATION DECISION FACTORS	Important	Not Important	Not Applicable
1. Influence of spouse			
2. Influence of parents or relatives			
3. Influence of an acquaintance or friend			
4. Influence of colleagues and professors during training			
5. Influence of the size of community in which you primarily resided between the ages of 7 and 18			
6. Professional school curriculum was related to rural area health care			
7. Exposure to rural health care by participation in a rural practice experience during training			
8. The idea of small community living			
9. The prospect of being more influential in community affairs			
10. Close (one hour) proximity to a major cultural & shopping centre			
11. Assistance in cost of capital investment of establishing your practice.			
12. Advertisements in professional journals			
13. The prospect of building a busy practice earlier			
14. There was a need in the community for an individual with your professional expertise			
15. The opportunity to work with another established practitioner as a partner			
16. The challenge of working in a small community possibly lacking complete facilities			
17. A good community hospital			
18. A medical centre in a nearby large city			
19. The opportunity to join a group practice.			

D-2 Please list any factor(s) not previously mentioned, which you feel was (were) important in influencing your decision to locate in your present community.

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E. RETENTION OF HEALTH CARE PROFESSIONALS IN SMALL COMMUNITIES

	E-1 Please indicate whether the following factors are personal sources of satisfaction in your present location? *(Check (√) the most appropriate response)*.		
SOURCES OF SATISFACTION	Yes	No	Not Applicable
1. Quality of small community living (relaxed, slow pace)			
2. Lower cost of living			
3. Community prestige and opportunities for community leadership			
4. Opportunity to work in a small, cohesive work environment			
5. Autonomy or independence in work			
6. Quality of the professional-client relationship			
7. Lower costs of maintaining a practice			
8. Opportunity to participate in a group practice			
9. Positive financial incentives derived from work			
10. Feeling of being wanted or needed			
11. Opportunities for professional leadership			
12. Opportunities to know the families of patients			
13. Availability of clinical support facilities			
14. Work responsibilities provide more challenge than might be available in a large community			
15. Work provides exposure to a variety of clients and experiences			
16. Opportunity to determine hours of work			
17. Opportunity to work on a part-time basis (e.g. 20 hours per week)			

Please proceed to reverse side

E-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of satisfaction in your present location.

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F. MOVEMENT OF HEALTH CARE PROFESSIONALS OUT OF SMALL COMMUNITIES

	F-1 Please indicate whether the following factors are personal sources of dissatisfaction in your present location? *(check (√) the most appropriate response)*		
SOURCES OF DISSATISFACTION	Yes	No	Not Applicable
1. Scarcity of cultural events and places of entertainment			
2. Lack of adequate schools in the area for children			
3. Lack of privacy, during leisure hours, for my family and/or myself			
4. Lack of health care training or experience required to work in a small community			
5. Too few peers to relate to socially and intellectually			
6. Lack of clinical support facilities and personnel			
7. Workload is too heavy			
8. Difficult to get adequate time off from work			
9. Difficult to get away from clients and other staff during work			
10. Opportunities to specialize are limited			
11. Community health care resources are limited			
12. Amount of work required to achieve a reasonable income is excessive			
13. Emergency calls are a problem			
14. Nonavailability of consultative services			
15. Opportunities for professional growth are limited			
16. Opportunities to attend continuing education programs are limited.			

F-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of dissatisfaction in your present location.

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G. IMPROVING WORKING CONDITIONS IN SMALL COMMUNITIES

	G-1 Indicate for each of the following factors whether or not it would potentially improve working conditions for you in your present location (*check (✓) the most appropriate response*).		
FACTORS TO POTENTIALLY IMPROVE WORKING CONDITIONS	Yes	No	Not Applicable
1. Access to specialists (if response is "yes", please specify) ____________ ____________ ____________			
2. Access to general and family practitioners			
3. Availability of relief personnel to provide adequate time off work			
4. Support facilities such as laboratories and emergency rooms			
5. Hospitals and/or additions to hospitals			
6. Support personnel			
7. Additional equipment			
8. Additional programs			
9. Greater opportunities for professional growth			
10. Greater opportunities to adequately participate in continuing education			

G-2 Please list any factor(s), not previously mentioned, which you feel would potentially improve working conditions for you in your present location.

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Please proceed to reverse side

H. GENERAL COMMENTS

H-1 Do you have any comments about the adequacy of professional training and continuing education for health care personnel in your profession who work in small Alberta communities?

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H-2 Do you have any general comments about attracting and retaining health care personnel in your profession to small Alberta communities?

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A short, personal interview with a number of rural health professionals is planned in addition to this questionnaire. Would you consent to an interview in October or November of 1984?

__________ YES __________ NO

THANK YOU FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE.
PLEASE ENCLOSE IN THE ACCOMPANYING ENVELOPE AND MAIL.

C.2 Modification of the prototypical physician questionnaire for other health groups was as follows:

Question A-4

Response choices for Dentists were
1. General Practice
2. Specialists/Fellow of the Royal College of Dentists of Canada (please specify) ______________________

Response choices for Registered Nurses were
1. RN (2 year program)
2. RN (3 year program)
3. Public Health/Occupational Health Diploma
4. BScN (Basic)
5. BScN (Post Basic)
6. Masters Degree
7. Other (please specify) ______________________

Response choices for Rehabilitation Medicine Therapists were

	Diploma	Undergraduate Degree	Graduate Degree
1. Physiotherapist			
2. Occupational Therapist			
3. Combined Physio/ Occupational Therapist			
4. Speech Pathologist			

Response choices for Hygienists/Technologists were
1. Dental Hygienist
2. Laboratory Technologist
3. Medical Radiation Technologist
4. Combined Laboratory/X-ray Technician

Response choices for Dieticians were
1. Dietician
2. Nutritionist
3. Dietary Technician

Question A-14

For Registered Nurses, Rehabilitation Medicine Therapists, Hygienists/Technologists, and Dieticians, response choices were
1. Solo/private practice
2. Group/clinic practice
3. Active treatment hospital
4. Auxiliary hospital
5. Health unit
6. Home care services
7. Other

Questions A-15 and A-17

These questions were physician-specific and were not included in any other questionnaire.

Question A-18

This question was reworded for all other questionnaires, to read 'How many years and/or months have you been working as a health care professional in your present community?'

Question B-7 and B-8

The following professional/technical skills were eliminated from all other questionnaires:

- surgical training;
- primary care training, and;
- handling of emergency procedures.

Question D-1

For all other questionnaires, except the Dentists', the following location decision variables were eliminated:

- assistance in cost of capital investment of establishing your practice;
- the prospect of building a busy practice earlier;
- the opportunity to work with another established practitioner as a partner, and;
- the opportunity to join a group practice.

Question E-1

For all other questionnaires, except the Dentists', the following 'source of satisfaction' variables were eliminated:

- lower costs of maintaining a practice, and;
- opportunity to participate in a group practice.

APPENDIX D: CORRESPONDENCE USED IN SURVEY

D.1 Cover Letter Sent to all Potential Respondents

D.2 Support Letters Sent to Respective Respondents

D.3 Cover Page Attached to Front of Each Questionnaire

D.4 Cover Letter Sent to all Non-Respondents

September, 1984

Dear Sir/Madam:

A study on rural health care professionals is being conducted by a research team under the auspices of the Department of Health Services Administration and Community Medicine, University of Alberta, and the Working Party on Education of the Conference on Rural Health Care, Edmonton, Alberta. This project is funded by the Medical Services Research (M.S.I.) Foundation of Alberta.

The purpose of the study is to survey rural health care professionals to obtain information necessary for effective planning of future rural health services in Alberta. The information obtained would facilitate planning by identifying 1) factors which influence the attraction and retention decisions of health professionals working in rural areas, and 2) the adequacy of health education and upgrading for rural health care personnel. Your response is vital to secure sufficient information which may assist interested parties in ensuring that there is an adequate number of competent health care professionals working in rural Alberta.

All responses will be treated confidentially and anonymously. The identification number at the bottom of the first page of the questionnaire shall be used only to allow follow-up in case of non-response. If you wish, you may remove the number.

We would appreciate it if you would take a few moments to complete and return the attached questionnaire. When you have completed it, please return the questionnaire as quickly as possible. A stamped envelope, addressed to our research co-ordinator, has been provided for your convenience.

Thank you for your cooperation.

Sincerely,

Dr. P.B. Heaton
Co-principal Investigator;
Professor, Department of Family
Medicine, University of Alberta;
Chairman, Working Party on Education
of Conference on Rural Health Care

Kyung Bay

Dr. K.S. Bay
Principal Investigator;
Professor, Department of Health
Services Administration and
Community Medicine

ALBERTA MEDICAL ASSOCIATION

304, 9901 - 108 STREET, EDMONTON, ALBERTA, T5K 1G8

PHONE (403) 423-2295

Members
Alberta Medical Association
(CMA Alberta Division)

Dear Doctor:

Re: Conference on Rural Health Care

The Conference on Rural Health Care in Alberta, jointly sponsored by the AMA, the College of Family Physicians of Canada (Alberta Chapter), as well as other health professional organizations and various rural organizations, is seeking to obtain information about the problems of practice in rural areas from those who are actually practising in that setting. This information will be used to develop recommendations relating to rural health care which we hope the medical schools and Government will put into effect. I might add that the Alberta Medical Association has been a strong supporter of the Conference on Rural Health Care from its inception up to the present time, and we feel that the objectives of the questionnaire are quite congruent with the overall objectives of the Alberta Medical Association.

The principal investigator is Dr. Peter Heaton of the Department of Family Medicine of the University of Alberta, and work is being carried out by Ms Bev Rachwalski as part of a Master's project. It was decided that the questionnaire should be sent to a random sample of physicians, as well as to members of other health care disciplines in rural areas, and you have been one of those chosen at random to answer. The overall numbers of physicians involved is limited, and thus it is of great importance that there be as high a return as possible from those to whom the questionnaire is sent. This is necessary if the results are going to have any significance at all. Thus, you are urged to take the twenty minutes or so needed to complete the questionnaire and return it to the investigator, Ms Bev Rachwalski, in the stamped, self-addressed envelope, at your earliest convenience.

It is hoped that the information obtained will provide the basis for recommendations which can be looked at by the Conference on Rural Health Care, as well as the Alberta Medical Association and the medical schools, in order that physicians practising in rural areas are better prepared and they have

(C.M.A. ALBERTA DIVISION)

better backup services and have increasing continuing education services available to them.

The starting point is to be sure that we have the information, and thus we ask you to please take the time to fill in that questionnaire, for which we would be extremely grateful.

Yours sincerely,

Neil M. Gray

Neil M. Gray, M. D.
President

NMG/jb

ALBERTA DENTAL ASSOCIATION
OFFICE OF THE PRESIDENT
#101, 8230 - 105 Street, Edmonton, Alberta T6E 5H9
Telephone: 432-1012

October 1984

Dear Doctor:

A study on rural health professionals is presently being carried out by a research team from the University of Alberta, jointly headed by Professor Kyung S. Bay and Dr. Peter B. Heaton. This study has the support of the Working Party on Education of the Conference on Rural Health Care and is being funded by the M.S.I. Foundation of Alberta.

We need your participation in this study in order to obtain information that can significantly contribute to the effective planning of comprehensive health care in rural areas of Alberta.

The enclosed questionnaire is being sent to randomly selected health care professionals in rural Alberta. It will only take a few minutes to complete. Please do so and return the questionnaire to the research team as soon as possible.

Sincerely,

Dr. Bryun Sigfstead
President
Alberta Dental Association

encl.

ALBERTA ASSOCIATION OF REGISTERED NURSES

10256 - 112th STREET
EDMONTON, ALBERTA
T5K 1M6
TELEPHONE (403) 426-0160

September 18, 1984

Dear Member:

A study on rural health professionals is presently being carried out by a research team from the University of Alberta, jointly headed by Professor Kyung S. Bay and Dr. Peter B. Heaton. This study has the support of the Working Party on Education of the Conference on Rural Health Care and is being funded by the M.S.I. Foundation of Alberta.

We need your participation in this study in order to obtain information that can significantly contribute to the effective planning of comprehensive health care in rural areas of Alberta.

The enclosed questionnaire is being sent to randomly selected health care professionals in rural Alberta. It will only take a few minutes to complete. Please do so and return the questionnaire to the research team as soon as possible.

Sincerely,

Yvonne Chapman

Yvonne Chapman
Executive Director

YC/hl
Enclosure

"SERVICE THROUGH SELF-IMPROVEMENT"

Association of
Chartered Physiotherapists
of Alberta
3rd Floor, 6020 - 104 Street, Edmonton T6H 5S4 Phone: (403) 438-0338

August 27, 1984

Dear A.C.P.A. member,

A study on rural health professionals is presently being carried out by a research team from the University of Alberta, jointly headed by Professor Kyung S. Bay and Dr. Peter B. Heaton. This study has the support of the Working Party on Education of the Conference on Rural Health Care and is being funded by the M.S.I. Foundation of Alberta.

The Association of Chartered Physiotherapists of Alberta supports your participation in this study in order to obtain information that can significantly contribute to the effective planning of comprehensive health care in rural areas of Alberta.

The enclosed questionnaire is being sent to randomly selected health care professionals in rural Alberta. It will only take a few minutes to complete. We would encourage you to complete the questionniare and to return it to the research team as soon as possible.

Sincerely,

Marion C. E. Briggs, B.Sc. P.T.
Chartered Physiotherapist
President, A.C.P.A.

Dear

A study on rural health professionals is presently being carried out by a research team from the University of Alberta, jointly headed by Professor Kyung S. Bay and Dr. Peter B. Heaton. This study has the support of the Working Party on Education of the Conference on Rural Health Care and is being funded by the M.S.I. Foundation of Alberta.

A sample of speech-language clinicians working in rural areas is being asked to assist in the effective planning of comprehensive health care in rural areas of Alberta.

The enclosed questionnaire is being sent to randomly selected health care professionals in rural Alberta; it will only take a few minutes to complete. Please do so and return the questionnaire to the research team as soon as possible.

Yours sincerely

Sara C McClain

Sara McClain, President
Speech and Hearing Association of Alberta

SCM:ec

Enclosure

THE ALBERTA DENTAL HYGIENISTS' ASSOCIATION
A Constituent Association of The Canadian Dental Hygienists' Association

October, 1984

Dear Dental Hygienist:

It would be much appreciated if you would take a few minutes out of your busy schedule to complete the enclosed questionnaire.

It is very likely that the results of this survey will benefit those health professionals who work in rural areas.

Yours sincerely,

Diane Howes

Diane Howes, A.D.H.A. President

Health Sciences Association of Alberta
14803 - 128 Ave., Edmonton, Alberta T5L 3H3 Ph. (403) 451-6086

Dear Member :

A study on rural health professionals is presently being carried out by a research team from the University of Alberta, jointly headed by Professor Kyung S. Bay and Dr. Peter B. Heaton. This study has the support of the Working Party on Education of the Conference on Rural Health Care and is being funded by the M.S.I. Foundation of Alberta. The Health Sciences Association of Alberta is a member of the Conference on Rural Health and is also a member of the Working Party on Education.

The Conference on Rural Health needs your participation in this study in order to obtain information that can significantly contribute to the effective planning of comprehensive health care in rural areas of Alberta.

The enclosed questionnaire is being sent to randomly selected health care professionals in rural Alberta. It will only take a few minutes to complete. Please do so and return the questionnaire to the research team as soon as possible.

Sincerely,

JPGallie

J.P. "Bud" Gallie
Executive Director, H.S.A.A.

JPG/lew

ALBERTA SOCIETY OF DIETARY TECHNICIANS

BOX 2353
CALGARY, ALBERTA
T2P 2M6

BOX 3791
POSTAL STATION D
EDMONTON, ALBERTA
T5L 4J8

Dear Dietary Technician;

Enclosed you will find a questionnaire for a study being carried out by a University of Alberta research team. One of the functions of the survey will help define educational and upgrading needs for health professionals working in rural areas.

We, at the society, hope that you will take a few minutes of your time to complete the questionnaire, since this information will also give us more direction for our upgrading seminars, and for the development of a correspondence updating course for Dietary Technicians.

Please complete and return this important questionnaire as soon as possible.

Sincerely,

for Lucy Denham
President
Alberta Society of
Dietary Technicians

THE ALBERTA REGISTERED DIETITIANS ASSOCIATION

1984 10 01

Dear Dietitian:

The Alberta Registered Dietitians Association is keenly interested in ensuring high quality nutritional care for all Albertans, whether they live in urban or rural areas. Our Association is concerned that this may not presently be the situation. For example, in a recent survey by A.R.D.A. (1), it was reported that outpatient nutrition counselling by a qualified health professional (i.e. a registered Dietitian) is less often available in rural areas than urban.

We would encourage you to take the time to respond to the enclosed questionnaire, directed to rural health professionals. This is part of a study being carried out by a research team from the University of Alberta, jointly headed by Professor Kyung S. Bay and Dr. Peter Heaton. Information obtained by the team will hopefully contribute to the effective planning of all phases of health care in rural areas of Alberta.

Yours truly,

Sandra Follett

Sandra Follett, R.D.
President
Alberta Registered Dietitians Association

(1) "Survey of Outpatient Counselling Services in Alberta" by the Insurance Coverage Investigative Committee and Committee on Planning Nutrition Services in Alberta, 1983

SDF/lim

PLEASE NOTE: FOR PURPOSES OF THIS STUDY, "RURAL ALBERTA" HAS BEEN DEFINED AS ALL ALBERTA OUTSIDE THE MAJOR CENTRES OF EDMONTON (INCLUDING ST. ALBERT AND SHERWOOD PARK), CALGARY, LETHBRIDGE MEDICINE HAT, RED DEER, GRANDE PRAIRIE, AND FORT McMURRAY.

IF YOU DO NOT RESIDE AND WORK IN A RURAL AREA AS DEFINED ABOVE DO NOT COMPLETE THIE QUESTIONNAIRE. SIMPLY CHECK (✓) THE BOX BELOW AND RETURN THE QUESTIONNAIRE.

☐ I DO NOT RESIDE AND WORK IN RURAL ALBERTA.

☐☐☐☐

FACULTY OF MEDICINE
THE UNIVERSITY OF ALBERTA

DEPARTMENT OF HEALTH SERVICES ADMINISTRATION AND COMMUNITY MEDICINE

13-103 Clinical Sciences Building
EDMONTON, ALBERTA, CANADA
T6G 2G3
Telephone (403) 432-6407

November 20, 1984

Dear Sir/Madam:

This letter is with reference to the questionnaire mailed to you in September, 1984, by a research team under the auspices of the Department of Health Services Administration and Community Medicine, University of Alberta, and the Working Party on Education of the Conference on Rural Health Care, Edmonton, Alberta. As mentioned in the letters accompanying the questionnaire, we are conducting a study on rural health care professionals.

As a health care professional practising in rural Alberta your comments on 1) factors which influence the attraction and retention decisions of health professionals working in rural areas, and 2) the adequacy of health education and upgrading for rural health care personnel are essential to the success of our study. However, we have not yet received your completed questionnaire.

In case you have misplaced the first questionnaire, another one has been enclosed for your use along with a stamped, self-addressed envelope. We would appreciate it if you would complete and return the questionnaire.

Please disregard this letter if you have already returned the questionnaire.

Thank you for your cooperation.

Sincerely,

Kyung Bay

Dr. K.S. Bay
Principal Investigator;
Professor, Department of
Health Services Administration
and Community Medicine

APPENDIX E: EDITED COMMENTS

E.1 Comments from Physician Mail Questionnaire

E.2 Comments from Dentistry Mail Questionnaire

E.3 Comments from Nursing Mail Questionnaire

E.4 Comments from Rehabilitation Medicine Mail Questionnaire

E.5 Comments from Hygienists/Technologists Mail Questionnaire

E.6 Comments from Dietician Mail Questionnaire

Due to the extensive number of comments, all comments have been edited rather than presented as direct quotes. When the same type of comment appeared repeatedly, it has been stated once with the frequency of repetition noted in brackets.

E.1 COMMENTS FROM PHYSICIAN MAIL QUESTIONNAIRE

#A-20 Please specify the primary reason for your decision to move (words in brackets indicate the size of community to which the respondent intended to move):

General/Family Practitioners/M.D. or M.B.

Retirement (3) (more than 30,000)
Greater Challenge (less than 30,000)
Specialization (more than 30,000)
Closer to major centre (less than 30,000)
Inadequate work volume (less than 30,000)
Better hospital-based medicine (less than 30,000)
Want more isolated community (less than 30,000)
Children's education (more than 30,000)
Too isolated (less than 30,000)
Social life/type of practise (more than 30,000)
Excessive workload (more than 30,000)

Specialists

Inadequate academic milieu (more than 30,000)
Dissatisfaction with auxiliary services - anesthesia, radiology (less than 30,000)
Failure to attract other specialists (more than 30,000)
Better practise opportunities (more than 30,000)
Better standard of living (more than 30,000)
Retirement (more than 30,000)

#B-9 Please list any professional and/or technical skills, not previously mentioned which you feel are important in adequately preparing professionals in your health care discipline for work in a small community.

General/Family Practitioners/M.D. or M.B.

Present curriculum is adequate but hospital interning is impractical for rural practise.
Anesthetics (19)
Handling of trauma patients (4)
ATLS certification (2)
General surgery (4)
Minor surgery (2)
Orthopedics (3)
Interrelationships with staff/patients
Subspecialty procedure training (2)
Obstetrics (9)
Handling psychiatric cases

Specialists

Emergency skills (2)
Finance management
General writing skills-reports, research
Basic anesthesia (4)
Public speaking
General surgical skills
Stress management
Ultrasound (2)
Economic and political/administrative structure of small hospitals (2)
Experience in lab/x-ray areas
Sigmoidoscopy

#C-4 Please list the following information for each course attended in the past year: name of course; type; duration in hours, and; location.

General/Family Practitioners/M.D. or M.B.

Name of Course: Critical Care Medicine, High-risk Obstetrics; Diabetic Care; Emergency Care Medicine; Intensive Care; Infection Disease; Anaesthesia; Dermatology; CME Regional Seminars; Cardiology; Family Practice; ATLS; ACLS.
Type: Seminar; Conference; Workshop; Teleconference.
Duration in Hours: A range of 4 hours to 80 hours.
Location: Most courses were in Alberta cities, with a few courses in United States.

Specialists

Name of Course: Critical Care; Dermatology; Infectious Disease; Regional Conference; Plastic Surgery; ATLS; ACLS; Drug Information; Biliary Surgery; Internal Medicine; Obstetrics and Gynecology.
Type: Conference; Workshop; Teleconference.
Duration in Hours: A range of 12 hours to 90 hours.
Location: Most courses were in Alberta cities, with a few courses in the United States.

#C-10 Please list any factor(s) not previously mentioned, which you feel significantly limit(s) your participation in continuing education programs

General/Family Practitioners/M.D. or M.B.

Registration fees too high
Need evening courses offered
No coverage for solo practise
Hard to get away from office and family
Fatigue from working too long a day
Mainly distances and cost factors (2)
Notices are late and courses filled
Loss of income while attending (2)

Specialists

Cost of attending - fees and loss of income (2)
Time of practise (2)
Some programs are repetitive
Most programs designed for G.P.s

#C-12 List other methods that you feel could be utilized to effectively provide continuing education to health care professionals in small communities

General/Family Practitioners/M.D. or M.B.

Videos/computer instruction (2)
Sabbaticals are an excellent idea (2)
Make certain courses mandatory
Opportunity for 1-2 week externships
Evening courses in rural setting
Specialist consultations (2)

Specialists

Better libraries (2)
Local med/surg. rounds
Rotational video programs
Satellite relays
1-2 month upgrading with funding
On-site practical instruction, especially in evenings

#C-13 In relation to your specific professional needs, identify continuing education subjects you would like to see offered

General/Family Practitioners/M.D. or M.B.

Endoscopy
Orthopedics (2)
General Medicine (3)
Sports Medicine
Obstetrics/Gynecology (6)
Update in Ophthamology
Minor Surgery (2)
All subjects are well covered (4)
Trauma/Other emergencies (5)
All disciplines offered on a rotational basis
Dermatology
Family counselling
Cardiology
General Surgery
Pediatrics
Accounting/Bookkeeping
Anaesthesia (3)
Psychiatric Emergencies (2)
Chronic/Palliative Care (2)
Infection Disease Update

Specialists

Psycho-social aspects of practise (2)
General update of relevant areas
Counselling techniques
ATLS for G.P.s
Surgery in plastics, orthopedics, obstetrics/gynecology
Psychogeriatrics in small communities
Trauma
EKGs
Obstetric Anaesthesia (2)
Physiology
Pharmacology

#D-2 Please list any factor(s), not previously mentioned, which you feel was (were) important in influencing your decision to locate in your present community.

General/Family Practitioners/M.D. or M.B.

Challenge of providing comprehensive medical care (2)
Good recreational activities (2)
I was born and raised in a small community
Better environment for children
Professional freedom and chance to handle complex cases
Most important was rural upbringing, example of a local rural physician, and availability of established, friendly, and fair practise to join.
Know patients personally
Would have preferred an urban area but my husband likes a small community.

Specialists

Joining excellent associates
Need for allround general surgeon in community
Recreational activities (3)
There was a job available
Reducing stress of city practise

#E-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of satisfaction in your present location.

General/Family Practitioners/M.D. or M.B.

Range/challenge of clinical decisions
Pace is not slow and relaxed (5)
Freedom in professional activity
Cost of living is higher, not lower (7)
Safety/security of community
Teaching students and residents
Pride in work
Getting to know people well
Shorter travel time
Providing total family health care
Recreational activities
Lack of medical politics/infighting

Specialists

Understanding of patients/staff
Good education/recreation facilities (2)
Cost of living is higher, not lower (4)
Living on a farm
Convenient distance from work (2)
Family growth in a small community
People in a small community
Able to do clinical research
Professional independence/satisfaction

#F-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of dissatisfaction in your present location.

General/Family Practitioners/M.D. or M.B.

Technical facilities lacking
Family practise program heads
Lack of privacy (2)
Poor day care facilities
Isolation from family/friends
Lack of consultative services
Fees need to be higher in North to supplement travel for education
Great amount of time spent referring patients to major cities

Specialists

Lack of updated technology
Excessive travel
Little contact with other specialists
Abuse of my time by patients
Can't do some procedures due to lack of facilities
Lack of follow-up of patients referred to large centres (2)

#G-2 Please list any factor(s), not previously mentioned, which you feel would potentially improve working conditions for you in your present location.

General/Family Practitioners/M.D. or M.B.

Better relations with hospital administration
Put 1st and 2nd year Family Practise interns in rural areas
Need to improve availability of consultants (3)
Less bureaucracy
Slightly larger hospital and a nursing home
Quicker return on tests and x-rays

Specialists

Government should fund small hospitals for certain specialty services not yet occuring.

#H-1 Do you have any comments about the adequacy of professional training and continuing education for health care personnel in your profession who work in small Alberta communities?

General/Family Practitioners/M.D. or M.B.

Concerned about trend of limiting fields of practise for G.P.s
Need special training in anaesthesia, surgery, high risk obstetrics, orthopedic surgery (8)
ATLS and ACLS certification with upgrading would be an asset
Department of Family Practise should actively promote placement of residents in small communities
Most training programs are not geared to rural practise (3)
Physicians recruited from overseas have inadequate training (2)
Training is adequate
Continuing education is accessible to those interested.
Need rural practicuums of 1 month minimum
Nurses and physicians need upgrading
Lack of didactics
Family Practise program concentrates too much on office practise and not enough on emergency situations

Specialists

More training in psycho-social care
No complaints in general (2)
Inadequate training in general surgical care and anesthesiology (2)
Recent graduates are well-trained; special exposure or training are unnecessary, only self-motivation
Need government sponsored sabbaticals

#H-2 Do you have any general comments about attracting and retaining health care personnel in your profession to small Alberta communities?

General/Family Practitioners/M.D. or M.B.

Main factor is what the community can offer families
Rural G.P.s should chair the Conference on Rural Health Care
Send students to rural areas early and for a long period of time (3)
Locum relief for vacation and education (2)
No problem attracting people but many are not willing to work
Small but efficient hospital is essential with auxiliary hospital and nursing home desireable
Need financial incentives (5)
Recommend change in attitude in medical schools re: rural practise (2)
Centralize clinics with travelling G.P.s
Community must make their facilities more attractive
The main problem is too heavy a workload for too few doctors

Specialists

Need adequate patient coverage
Government should encourage, not penalize, small hospitals to allow specialists
Make student electives in rural hospitals attractive or even mandatory (2)
Have rural practitioners address students on challenge and joys of country life (2)
Locum relief is essential (2)
Improve rural hospitals, which is happening
Need financial incentives (4)
Government intervention to secure qualified people and exclude 'second-best' imports
Rural practicuum to stimulate interest and understanding of rural life and practise (2)
Must be able to share 'on-calls'
Upgrade hospitals and nursing staff

E.2 COMMENTS FROM DENTISTRY MAIL QUESTIONNAIRE

#A-20 Please specify the primary reason for your decision to move
(words in brackets indicates the size of community to which the respondent intended to move).

Relocation for career purposes (3 to less than 30,000; 2 to more than 30,000)
Social (more than 30,000)
Services for children (less than 30,000)
Homesick (less than 30,000)
Better professional opportunities (more than 30,000)
Change in lifestyle (less than 30,000)

#B-9 Please list any professional and/or technical skills, not previously mentioned, which you feel are important in adequately preparing professionals in your health care discipline for work in a small community.

Extensive clinical exposure to molar endodontics, impactions, and surgical endodontics
Orthodontics (5)
Endodontics (2)
Simple fractures of mandible/maxilla
Practice Management (5)
Communication with rural family (3)
Biopsy techniques
More training in dento/medical emergencies
Computer programming
Most skills are acquired through experience
Periodontics

#C-4 Please list the following information for each course attended in the past year: name of course; type; duration in hours, and; location

Name of Course: Practice Management; Maryland Bridges; General Dentistry; IV Sedation; Orthodontics; Porcelain Veneers; Dental Materials; Troubleshooting; Fluoride Update; Nutrition and Diet; Pain Management.
Type of Course: Conference; Seminar; Workshop
Duration in Hours: A range of 6 hours to 180 hours.
Location: Most courses were in Alberta cities, with a few courses in United States and England.

#C-10 Please list any factor(s), not previously mentioned, which you feel significantly limit(s) your participation in continuing education programs.

No coverage for weekday courses
If the course interests me, I'll take it
Too expensive
Lack of weekend courses
Adverse driving conditions
Further cost of accomodation
Poor organization of Lethbridge and District Dental Society

#C-12 List other methods that you feel could be utilized to effectively provide continuing education to health care professionals in small communities.

Week long courses
Study groups (6)
There are no problems (2)
Videocassette programs and libraries (6)
Offer more courses in small centres such as Lethbridge (2)

#C-13 In relation to your specific professional needs, identify continuing education subjects you would like to see offered

All subjects are offered (8)
Preventive Orthodontics (3)
Emergency procedures (2)
Treatment of fractured teeth
Treatment of geriatric, handicapped, terminal disease cases (2)
Orthodontics (10)
Minor Surgery (2)
Implantology
Endodontics (2)
Practise management (5)
Troubleshooting
Generalized rural dentistry (2)
Research design
Behavior modification
Pedodontics

#D-2 Please list any factor(s), not previously mentioned, which you feel was(were) important in influencing your decision to locate in your present community.

Spouse's hometown
Recreational activities (3)
Profit
Practise was available (4)
Unhappy work situation in previous practise
Healthy, safe environment for family
My hometown
Dislike urban centres

#E-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of satisfaction in your present location.

Recreational activities (2)
Gratitude of patients (2)
Friendliness of town (2)
Sense of achievement

#F-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of dissatisfaction in your present location.

Cannot always practise type of dentistry desired
Specialist care difficult for patients due to travel and expense
Too many dentists in area
No dissatisfaction
Too much travel with inadequate compensation
Difficult fitting into a tight-knit community
Mediocre medical care
No coverage

#G-2 Please list any factor(s), not previously mentioned, which you feel would potentially improve working conditions for you in your present location.

Wider selection of trained personnel (2)
Trained lab techs. in porcelain
Fewer dentists in same area
Specialists are too far away
None - working conditions, staff, facilities are best there is
More dentists for coverage

#H-1 Do you have any comments about the adequacy of professional training and continuing education for health care personnel in your profession who work in small Alberta communities?

New graduates aren't prepared for rural practise and should only work under an experienced dentist (2)
Adequate courses exist - just take more time to travel for continuing education (7)
Inadequate
Emphasize rural practicuums
Tuition fees for courses are much too high (2)
Must improve human relations and management skills
Small centre is excellent, more people should try it

#H-2 Do you have any general comments about attracting and retaining health care personnel in your profession to small Alberta communities?

Need financial incentives (5)
Upgrade undergrad. clinical training
Promote rural areas in classroom (2)
Promote dental maturation
Financial incentives won't help - you live here if you want to - but need trained auxiliary staff (3)
Best attraction is lifestyle (4)
Front-end cost of establishing practice is high with risk of low careload
It is no problem today

E.3 COMMENTS FROM NURSING MAIL QUESTIONNAIRE

#A-20 Please specify the primary reason for your decision to move
(words in brackets indicate the size of community to which the respondent intended to move).

Husband relocating (3 to less than 30,000)
Fiance (2 to more than 30,000; one to less than 30,000)
Closer to family (less than 30,000)
Career upgrading (2 to less than 30,000)
Time for a change (1 to more than 30,000; 2 to less than 30,000)

#B-9 Please list any professional and/or technical skills, not previously mentioned, which you feel are important in adequately preparing professionals in your health care discipline for work in a small community.

Emergency aid (11)
Dealing with hospital administration
Cardiac skills
Rural practicuum with health unit
Physical assessment (2)
Management skills (2)
Communication skills (2)
Palliative care
Patient teaching skills in home care
Medico-legal implications
Pharmacology
Diagnostic skills
Mental health

#C-4 Please list the following information for each course attended in the past year: name of course; type; duration in hourss, and; location

Name of Course: Coronary Care; Care of the Elderly; Aging Process; IV Certification; CPR; Infant Nutrition; Family Planning; Maternity; Emergency; Cancer; Ethics; Labor Relations; Parenting; Stress Management; Computers; Management; Physical Assessment.
Type of Courses: Seminars; Workshops; Conferences; Teleconferences
Duration in Hours: A range of 4 hours to 114 hours.
Location: An approximately equal number of courses were held in Alberta cities and rural communities.

#C-10 Please list any factor(s), not previously mentioned, which you feel significantly limit(s) your participation in continuing education programs.

Family responsibilities (3)
Too great a distance
Employer does not provide financial assistance or commitment (2)
Need more clinical-oriented workshops

#C-12 List other methods that you feel could be utilized to effectively provide continuing education to health care professionals in small communities.

Small group workshops with clinical specialists
More videotapes and educational films
Newsletters of recent developments (2)
Self-study units at home
Expanded libraries
Funding for rural nurses to teach courses in their locations
Two-week sessions in urban hospitals (2)
Living accomodations paid for by employers

#C-13 In relation to your specific professional needs, identify continuing education subjects you would like to see offered.

Courses are adequate, but inaccessible
Management skills (2)
Counselling skills (5)
Native studies
Pharmocology update (2)
Legal aspects in Nursing (3)
High-risk prenatal care (3)
Recovery room procedures
Pediatric care (3)
Basic interpretation of ECGs
Professionalism and ethics (2)
Cardiac monitoring (2)
Assessment skills (4)
Clinical specialization at Master's level (2)
Public health trends (3)
Emergency care (10)
Care of elderly (5)
Preventive medicine (2)
Obstetrics (5)
Parenting courses (3)
Psychology/psychiatry
Interviewing skills (2)

#D-2 Please list any factor(s), not previously mentioned, which you feel was(were) important in influencing your decision to locate in your present community

Spouse's business interests
Scholarship/bursary requiring repayment
Opportunity for community health
Appeal of a personalized setting
Job without experience required (2)
Need for nurses (3)
Challenge of autonomy
Prospect of continuity of care
It's the lifestyle I want
Good environment to raise family

#E-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of satisfaction in your present location.

Know clients personally/professionally
Good nurse/doctor relationship (2)
Professional growth/development
Challenge of work
People continuity
Short driving distances

#F-2 Please list factor(s), not previously mentioned, which you consider to be personal sources of dissatisfaction in your present location.

Distance from friends/relatives
Lack of privacy (3)
Lack of mental health workers
Small hospital politics
Stress and confusion due to understaffing (2)
Shift rotation
Poor rapport with administration (2)
Hostile nurse/doctor relationship

#G-2 Please list any factor(s), not previously mentioned, which you feel would potentially improve working conditions for you in your present location.

A new, well-equipped hospital has made nursing much easier
Reduce time taken for consultations
Doing well already

#H-1 Do you have any comments about the adequacy of professional training and continuing education for health care personnel in your profession who work in small Alberta communities?

Training in emergency procedures is essential (7)
Basic RN students lack ability to manage and organize work (2)
Basic training is adequate but poor upgrading means nurses lose skills (5)
More training in community health
More experience in obstetrics (3)
Training in specialties in urban hospitals would be better than rural practicuums
If people are interested enough they will get to workshops
Need rural practicuums (3)
Two year program does not prepare nurses for work in rural areas
Some things can only be learned on the job

#H-2 Do you have any general comments about attracting and retaining health care personnel in your profession to small Alberta communities?

Employees should provide more opportunity and financial assistance for upgrading
Provide rural practicuum opportunities (2)
Financial incentives (4)
Improve availability of upgrading with consultants/correspondence courses (4)
Rural hospitals provide a variety of services and diverse experience (2)
Better library facilities
Need qualified supervisors
Consider rural nursing as a post-grad. specialty
Upgrading should be obligatory and provided by employers
Little one can do to retain single people in a small community (4)

E.4 COMMENTS FROM REHABILITATION MEDICINE MAIL QUESTIONNAIRE

#A-20 **Please specify the primary reason for your decision to move**
(words in brackets indicate the size of community to which the respondent intended to move).

Physiotherapists

Education for children (more than 30,000)
Husband's job (4 to more than 30,000; 3 to less than 30,000)
Personal reasons (less than 30,000)
Burn-out (more than 30,000)
More work experience (more than 30,000)

Occupational Therapists

Limited job/social opportunities (more than 30,000)
Husband transferred (less than 30,000)

Speech Pathologists

Poor working conditions (more than 30,000)
High cost of living (more than 30,000)
Husband's job (1 to more than 30,000; 2 to less than 30,000)
Burn-out (more than 30,000)
End of locum (3 to less than 30,000)
Too small (more than 30,000)
Personal reasons (less than 30,000)
Advanced studies (3 to more than 30,000)
Travelling
No professional development (more than 30,000)
No career advancement (4 to more than 30,000)
Poor social activities (2 to more than 30,000)

#B-9 **Please list any professional and/or technical skills, not previously mentioned, which you feel are important in adequately preparing professionals in you health care discipline for work in a small community.**

Physiotherapists

Management skills (2)
Dealing with solo position
Increasing physician awareness of physiotherapy
Interviewing patients and families (2)
Public relations (2)
Exposure to other departments
Ability to work independently
Knowledge of community resources
Prosthetics and braces
Splinting/orthotics (2)
Understanding public health system

Occupational Therapists

Promoting OT (2)
Management skills
Familiarity with resources available in urban centres
Splinting
Assessment skills for physical and psychosocial needs

Speech Pathologists

How to utilize community resources (6)
Utilizing a peer support network
Evaluating program effectiveness
Management skills (3)
Use of computers

#C-4 **Please list the following information for each course attended in the past year: name of course; type; duration in hours, and; location**

Physiotherapists

Name of Course: Program Evaluation; Cerebral Palsy; Electrical Stimulation; Brain-Damaged Adult; V2 Orthopedics; Muscle Energy; Manual Therapy; Sports Medicine.
Type of Course: Conference; Seminar; Workshop; Teleconference.
Duration in Hours: A range of 12 hours to 120 hours.
Location: Most courses were held in Alberta cities.

Occupational Therapists

Name of Course: Psychogeriatrics; Grieving; Communication Skills; Splinting; Feeding Techniques; Brain Injury; Rural Therapy Northern Group; Cancer Update; CPR; Neuronuscular Development in Children; Footcare; Family Interviews.
Type of Course: Teleconference; Seminar; Workshop; Conference.
Duration in Hours: A range of 6 hours to 72 hours.
Location: Most courses were held in Alberta cities.

Speech Pathologists

Name of Course: Promotion of Non-Profit Services; Management; SHAA Convention; Phonology Processes; Microcomputers in Communicative Disorders; Sign Language.
Type of Course: Seminar; Conference; Workshop
Duration in Hours: A range of 6 hours to 88 hours.
Location: Most courses were held in Alberta cities.

#C-10 Please list any factor(s), not previously mentioned, which you feel significantly limit(s) your participation in continuing education programs.

Physiotherapists

Courses held mid-week
Must close clinic in my absence
Retirement soon
Difficult for private practise to fund upgrading
Alberta has a poor library service

Occupational Therapists

Poor interlibrary loan service

Speech Pathologists

Colleagues do not recognize need for upgrading
Past programs were disappointing
Weather conditions
Large caseloads (3)

#C-12 List other methods that you feel could be utilized to effectively provide continuing education to health care professionals in small communities.

Physiotherapists

Rural exchange groups (7)
Financial assistance
Weekend courses (2)
Encourage administrators
Visiting urban facilities
Lower cost of courses
Improving library facilities

Occupational Therapists

Updated resource library (2)
Rural newsletter

Speech Pathologists

Increase consultation from Department of Social Services and Community Health
Rural study groups
Offer 1 week, indepth sessions (2)

#C-13 In relation to your specific professional needs, identify continuing education subjects you would like to see offered.

Physiotherapists

Update on splinting techniques (2)
Quality assurance
Administrative issues (5)
Interpersonal relationships
Courses are adequate (6)
Sports Medicine does a good job
Orthopedics (4)
Manual therapy (3)
Periodic update seminars (12)
TENS
Muscle energy (2)
Home care
Geriatrics (2)
Maintenance programs in M.S.
Charting
Sports Medicine (5)

Occupational Therapists

Update on splinting (3)
Work simplification techniques
Update on clinical aspects
Geriatric remotivational skills
Application of pressure stockings
Case studies from rural OTs
Pediatric learning disabilities (2)
Chart audit for sole therapist
Time management for sole therapist
Cardiac/COPD rehabilitation
Orientation to respiratory equipment

Speech Pathologists

Public education of speech disorders
Endoscopy procedures
Promotion of profession
Advanced audiology
Clinical intervention
Practical use of computers (5)
Parenting programs (2)
Evaluating program effectiveness (2)
Time management
Administration (3)
Treating developmental apraxia
Treating laryngectomy patients
Home/school programs
Behavior management
Low-level language therapy
Stress management
Update of new tests/materials (9)

#D-2 Please list any factor(s), not previously mentioned, which you feel was(were) important in influencing your decision to locate in your present community.

Physiotherapists

Career advancement (2)
Recreational activities (2)
Freedom in practise
Relaxed lifestyle (2)
Husband's job
Interest in home care

Occupational Therapists

Husband's job (2)
Opportunity to begin therapy program

Speech Pathologists

Permanent position (4)
Recreational activities (2)
Bursary repayment
Good health unit (2)
Independence
Liked the supervisor

#E-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of satisfaction in your present location.

Physiotherapists

Independence
Good working relationships (4)
Friendly community
Cost of living is higher, not lower (5)
Variety of work

Occupational Therapists

Good working relationships
Supportive administration (3)
Challenge
More personal contact with patient

Speech Pathologists

Friendly community (3)
Feeling of being somewhat indispensible
Recreational facilities

#F-2 Please list factor(s), not previously mentioned, which you consider to be personal sources of dissatisfaction in your present location.

Physiotherapists

Difficult to maintain skills
Burn-out
Isolation
Urban hospitals poor image of rural hospitals
Balancing clinical/management demands
No specialization

Occupational Therapists

Limited in psychiatric counselling
Coping with AADL program
Lack of specialization
Distance to urban centres
Lack peer contact
Burn-out from caseload

Speech Pathologists

Competition between agencies
No influence on health unit
Responsibility without authority
No long-term job security
Communities limited knowledge of Speech Pathology
Viewed as an 'outsider'
Geographic isolation

#G-2 Please list any factor(s), not previously mentioned, which you feel would potentially improve working conditions for you in your present location.

Physiotherapists

Increased staffing (4)
Better liaison with urban centres
Access to library services (2)
Regular PT consultant visits (2)
More upgrading closer to home
Upgrading at U. of C. is great, but costly

Occupational Therapists

More staff for workload
Improve access to resource libraries (2)
Improve access to liaison staff
Improve discharge planning in city

Speech Pathologists

Increase staff (7)
Need senior administrator for program
Opportunities for clinical exchanges, e.g. RITE line
More contact with peers

#H-1 Do you have any comments about the adequacy of professional training and continuing education for health care personnel in your profession who work in small Alberta communities?

Physiotherapists

Need more frequent updating courses
The profession is working on upgrading
Expose students to rural practise
No problems - close to an urban centre
Accrument of upgrading study credits
More courses on administration

Occupational Therapists

Difficult to be a specialist
Need experience in urban centre first
Need more rural-practise education
Need short locum in urban hospital

Speech Pathologists

Rural pacticuum (3)
Need administrative training (2)
Training is adequate but need emphasis on work with limited resources and staff (3)
Upgrading is too general
More training for health units (2)
Consultant services are great
Mandatory upgrading
Short extension courses to rural areas.
Increase student enrolment

#H-2 Do you have any general comments about attracting and retaining health care personnel in your profession to small Alberta communities?

Physiotherapists

Rural practicuums may help (5)
Provide incentives for upgrading (2)
Increase financial incentives (9)
Increase community awareness of Physiotherapy (4)
Physios should be experienced before going to rural areas (4)
Communities should sell themselves
People are usually here for spouse and family, maybe nothing can help

Occupational Therapists

Rural practicuums may help (2)
Attractive salary for sole charge
Ad campaign about role of rural OT
Discourage small centres from hiring remedial gymnasts/craftsworks as therapists
Require access to resource networks

Speech pathologists

Experienced personnel only
Ensure regular, frequent consultations
Morale is low due to poor salaries and insufficient manpower (11)
Must enjoy variety, independence, and responsibility
Single females do not stay long
Burn-out
You have to experience it to appreciate it
Sabbaticals for upgrading

E.5 COMMENTS FROM HYGIENISTS/TECHNOLOGISTS MAIL QUESTIONNAIRE

#A-20 Please specify the primary reason for your decision to move
(words in brackets indicate the size of community to which the respondent intended to move).

Laboratory Technologists

Husband transferred (3 to less than 30,000; 1 to more than 30,000)
Climate (less than 30,000)
Prefer city life (more than 30,000)
Isolation (more than 30,000)
Marriage (less than 30,000)
Closer to upgrading (more than 30,000)

Medical Radiation Technologists

Husband transferred (3 to less than 30,000; 1 to more than 30,000)
More challenge (less than 30,000)
Limited professional growth (more than 30,000)

Combined Laboratory/X-ray Technicians

Husband's job (less than 30,000)
Advancement (more than 30,000)
Closer to city/family (less than 30,000)
Return to college (more than 30,000)

Dental Hygienists

Husband's job (2 to more than 30,000)
Education (more than 30,000)
To buy a farm (less than 30,000)
School for children (less than 30,000)

#B-9 Please list any professional and/or technical skills, not previously mentioned, which you feel are important in adequately preparing professionals in your health care discipline for work in a small community.

Laboratory Technologists

Interpersonal relationships
Electrocardiograms
Stressing confidentiality
Management skills
Equipment assessment, justification, and maintenance (2)
Manual techniques
Quality control

Medical Radiation Technologists

Communication skills
Minor repairs to equipment (2)
Management skills
Use of older equipment
Reading ECGs

Combined Laboratory/X-ray Technicians

Interpersonal skills
Basic Nursing essentials
X-ray and processor maintenance
ECG training
Infection control
Quality control
Evaluating instruments

Dental Hygienists

Management skills
Program planning/evaluation (2)
Family counselling
Understanding natives
Compiling statistics
Screening procedures
Public speaking

#C-4 Please list the following information for each course attended in the past year: name of course; type; duration in hours, and; location

Laboratory Technologists

Name of Course: Rural Blood Bankers; CSLT; ASMT; Red Cross Updating; Test Results; Management; Immunohematology for Small Labs; Instrumentation; Cost Effectiveness; Urinalysis; ECG; Microbiology; Autohemolytic Anemias; Unit Measurement; Assertiveness Training.
Type of Course: Correspondence, Seminar; Teleconference; Workshop; Conference.
Duration in Hours: A range of 2 hours to 36 hours.
Location: Most courses were held in Alberta cities.

Medical Radiation Technologists

Name of Course: AAMRT; HSAA; Patient Management; CAMRT; Pathology; Stress Management; Quality Control; Workload Measurement; ECG; Automatic Processing; Sectional Anatomy; Management.
Type of Course: Conference; Seminar; Correspondence; Workshop.
Duration in Hours: A range of 2 hours to 48 hours.
Location: Most courses were held in Alberta cities.

Combined Laboratory/X-ray Technicians

Name of Course: Instrumentation; Blood Banking; Urinalysis; General Lab Procedures; ECG; X-ray Processor Maintenance; Interpretive ECG Readings; Quality Control; Portable X-ray Practicuum; Workload Measurement; Haematology Update.
Type of Course: Correspondence, Seminar; Teleconference; Conference; Workshop.
Duration in Hours: A range of 6 hours to 99 hours.
Location: Most courses were held in Alberta cities.

Dental Hygienists

Name of Course: CPR; Review of Cleft Palate; Orthodontics; Fluorides; Periodontal Techniques; Clinical Root Planing; ADHA; CDHA; Public Health; Adult Education; Research Principles.
Type of Course: Seminar; Conference; Workshop.
Duration in Hours: A range of 3 hours to 24 hours.
Location: An approximately equal number of courses were held in Alberta cities and rural communities.

#C-10 Please list any factor(s), not previously mentioned, which you feel significantly limit(s) your participation in continuing education programs.

Laboratory Technologists

Inclement weather
Courses too specialized

Medical Radiation Technologists

Courses deal with equipment not found in rural areas
Winter driving conditions

Combined Laboratory/X-ray Technicians

Courses deal with tests and equipment not found in rural areas (2)
Low staff morale

Dental Hygienists

Winter driving conditions
Programs are oriented to private practise
Employer decides which courses are important

#C-12 List other methods that you feel could be utilized to effectively provide continuing education to health care professionals in small communities.

Laboratory Technologists

More audio-visuals
Supervisors should provide inservices

Medical Radiation Technologists

Courses from CAMRT are good
Special rural 'package'
Newsletters on updates
Mandatory updating
Increase hospital education budget
Hospitals in my area have joined to present upgrading

Combined Laboratory/X-ray Technicians

Visits by radiologists
Newsletters on updates
Workshops in centralized rural area

Dental Hygienists

Rural study groups
Rural newsletters by association

#C-13 In relation to your specific professional needs, identify continuing education subjects you would like to see offered.

Laboratory Technologists

Cost effectiveness
Abnormal smears
Quality control (2)
Update on lab procedures (2)
Management skills
Rural blood banking
Advanced courses, not refreshers
Basic coagulations
Courses in ECGs
New instrumentation

Medical Radiation Technologists

Ultrasound (2)
Quality assurance
Radiation protection
Emergency refresher
Communication skills
Cree language and way of life
Update classes in radiography (3)
Management (2)
Equipment update/troubleshooting (2)
ECG interpretation
Basic interpretation of radiographs (2)

Combined Laboratory/X-ray Technicians

Quality assurance
Management skills (2)
Electrolytes (2)
Automation in all areas (6)
Blood grouping
Abnormal hematology findings
Pathological findings
Trauma positioning
Record keeping/lab. units

Dental Hygienists

Administration skills (2)
Orthodontics (2)
Periodontics (2)
Fluoride review
Instrumentation
Research
Public speaking
Preventive procedures update
Sealants
Prenatal/postnatal dental care
Advances in dental public health (2)
Short refresher courses in any area

#D-2 Please list any factor(s), not previously mentioned, which you feel was(were) important in influencing your decision to locate in your present community

Laboratory Technologists

Only job available (3)
Follow-up on patient care
Feel like an individual
Good environment for children
Given responsibility

Medical Radiation Technologists

Job available (2)
Pleasant staff and management
Sole Charge opportunity
Recreational facilities
Can make more money with standby and overtime

Combined Laboratory/X-ray Technicians

Job available
Good environment for children
Reasonable housing prices
Hometown

Dental Hygienists

Employer approached me
Bursary repayment (3)
Job availability
Only reason is have a farm in the area

#E-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of satisfaction in your present location.

Laboratory Technologists

More experience (2)
Cost of living is higher, not lower (6)
Close contact with staff
Less driving time
Social contact with professionals
Friendliness of town
Involved in planning new facility

Medical Radiation Technologists

Safe place for family
Knowing people in community
Independence
Teamwork
Cost of living is higher, not lower (7)
Short travelling distance

Combined Laboratory/X-ray Technicians

Close to relatives
Personal contact with staff (2)

Dental Hygienists

Warm appreciation of children
Cost of living is higher, not lower (5)
Employer is great (2)
Team approach in public health

#F-2 Please list factor(s), not previously mentioned, which you consider to be personal sources of dissatisfaction in your present location.

Laboratory Technologists

Long drive to work
Few challenges
Inadequate budgets for equipment
Hospital not interested in upgrading

Medical Radiation Technologists

Too few jobs in area
Heavy workload, on-call, no holiday relief
No challenge
No specialization
Facilities/equipment outdated

Combined Laboratory/X-ray Technicians

Inadequate for children's higher education
Equipment outdated (2)
Small, gossipy community
Community members running hospital

Dental Hygienists

Always short-staffed
Poor salary

#G-2 Please list any factor(s), not previously mentioned, which you feel would potentially improve working conditions for you in your present location.

Laboratory Technologists

Recognition from management
Support from doctors
Useful reference library
Motivation from hospital for upgrading

Medical Radiation Technologists

Library facilities
Pressure on physicians to abide by proper procedures

Combined Laboratory/X-ray Technicians

Modern equipment has helped
Competency evaluations of staff
Better communication between staff and administration
Inservices between departments

Dental Hygienists

Limited access to literature needs improvement
New senior hygienist has improved conditions

#H-1 Do you have any comments about the adequacy of professional training and continuing education for health care personnel in your profession who work in small Alberta communities?

Laboratory Technologists

Need exposure to 'manual' procedures
Need more advanced courses
Courses offered are adequate (3)
Mandatory upgrading would help (2)
Professional training and upgrading is inadequate
Need training in management (2)
Training is adequate (2)

Medical Radiation Technologists

Rural upgrading is almost non-existent
Rural training is limited
Need finances for upgrading
Program is great clinically but lacks management training (3)
Courses need rural orientation (3)
CCT program is obsolete
Training is adequate (3)

Combined Laboratory/X-ray Technicians

Professional training is adequate (2)
Need upgrading in automation (3)
Make upgrading mandatory
Course needed on electrolytes
Course should be longer
Course needed on portable/fluoro x-rays

Dental Hygienists

Need training and upgrading in rural public/community health (6)
Need rural practicuums (2)
Upgrading is not a problem if one is interested and supported by employer
Need mandatory upgrading

#H-2 Do you have any general comments about attracting and retaining health care personnel in your profession to small Alberta communities?

Laboratory Technologists

Labs are inadequately staffed (2)
Need new equipment
Communities should offer better recreational activities
Large centres need to respect rural areas
High River has no problem
Need funding for education
Managers are not qualified (2)

Medical Radiation Technologists

Need a rural segment of CAMRT
Communities need to provide financial incentives
Need modern equipment
Need better training and upgrading
Need more staff, relief personnel

Combined Laboratory/X-ray Technicians

Guarantee accomodation when renting is difficult
Extremely frustrating to have outdated equipment (3)
Pay a Northern allowance

Dental Hygienists

Poor working conditions, low salaries (4)
Continue with bursaries
Need easier access to upgrading (4)
Continue with student employment in public health (3)
Poor attitude of University staff towards public health
Need special certificate in public health
In a female-oriented profession, job location usually depends on spouse if married; therefore, little control (2)

E.6 COMMENTS FROM DIETICIAN MAIL QUESTIONNAIRE

#A-20 Please specify the primary reason for your decision to move
(words in brackets indicate the size of community to which the respondent intended to move).

Dieticians/Nutritionists

Spouse (3 to less than 30,000; 1 to more than 30,000)
Return to home (1 to more than 30,000; 1 to less than 30,000)
Further education (2 to more than 30,000)
More challenge (2 to more than 30,000)

Dietary Technicians

Spouse
Too much driving (to less than 30,000)

#B-9 Please list any professional and/or technical skills, not previously mentioned, which you feel are important in adequately preparing professionals in your health care discipline for work in a small community.

Dieticians/Nutritionists

Communication skills
Teaching skills
Management skills

Dietary Technicians

Communication skills
Training re: budgets and statistics

#C-4 Please list the following information for each course attended in the past year: name of course; type; duration in hours, and; location

Dieticians/Nutritionists

Name of Course: Stress Management; Computers; Nutrition and Cancer; Insulin Update; Performance Evaluation; Feeding Skills; Fetal Alcohol Syndrome; Biochemistry Update; Quality Assurance.
Type of Course: Seminars; Workshops; Conference.
Duration in Hours: A range of 4 hours to 43 hours.
Location: Most courses were held in Alberta cities.

Dietary Technicians

Name of Course: Food Service Supervisors; Stress Management; Industrial Relations; Dietary Update; Microwaving; Isolation Techniques; Interviewing Skills; Computers; Stroke Patients; Geriatrics.
Type of Course: Conference; Teleconference; Seminars; Workshop; Correspondence.
Duration in Hours: A range of 12 hours to 54 hours.
Location: Most courses were held in Alberta cities.

#C-10 Please list any factor(s), not previously mentioned, which you feel significantly limit(s) your participation in continuing education programs.

Dieticians/Nutritionists

Too costly
Time is inconvenient

Dietary Technicians

AHA courses are good, but expensive
Need courses near end of week
Not informed of course by employer

#C-12 List other methods that you feel could be utilized to effectively provide continuing education to health care professionals in small communities.

Dieticians/Nutritionists

Workshops on weekends
Clinical update mailing
Videos of urban seminars
Journal clubs
Consultants at regional meetings
Improve inter-library loan service

Dietary Technicians

Catalogue of available films
Update newsletter (3)
Notified well in advance

#C-13 In relation to your specific professional needs, identify continuing education subjects you would like to see offered.

Dieticians/Nutritionists

Dietary therapy updates (5)
Management skills (7)
Patient communication/motivation (2)
Diabetic education
Nutrition assessment
Cost control
Standards of care
Quality assurance
Infant nutrition
Weight control

Dietary Technicians

Management skills (11)
Menu planning tips (2)
Update on diabetic teaching (4)
Update on therapeutic diets (4)
Outpatient counselling
Present needs met with teleconferences

#D-2 Please list any factor(s), not previously mentioned, which you feel was(were) important in influencing your decision to locate in your present community

Dieticians/Nutritionists

Challenge of work (2)
Job available (3)
Sole reason was spouse's career

Dietary Technicians

Job available (6)
Challenge of work
Part of a new facility

#E-2 Please list any factor(s), not previously mentioned, which you consider to be personal sources of satisfaction in your present location.

Dieticians/Nutritionists

Excellent relationships with staff (2)
Excellent relationships with patient and family
Cost of living is higher, not lower (8)

Dietary Technicians

Cost of living is higher, not lower (4)
Patients get individual attention
Good team approach

#F-2 Please list factor(s), not previously mentioned, which you consider to be personal sources of dissatisfaction in your present location.

Dieticians/Nutritionists

Lack of recreational facilities
When absent, no coverage for job
Inadequate medical libraries
Urban consultants insensitive to rural needs
Administrative work too demanding (2)
Feeling of isolation

Dietary Technicians

Was difficult to move away from family and friends
Poor communication with Nursing and Administration

#G-2 Please list any factor(s), not previously mentioned, which you feel would potentially improve working conditions for you in your present location.

Dieticians/Nutritionists

Improved image of profession
Increased staffing

Dietary Technicians

Support group of technicians, dieticians and food service managers

#H-1 Do you have any comments about the adequacy of professional training and continuing education for health care personnel in your profession who work in small Alberta communities?

Dieticians/Nutritionists

No time to update knowledge
Training is inadequate for rural areas (2)
Not prepared for diverse responsibilities
Training is adequate
Add information on small facilities and geriatric care to curriculum

Dietary Technicians

Upgrading is available, but inaccessible (3)
Consultants should be more aware of rural needs
Need management training

#H-2 Do you have any general comments about attracting and retaining health care personnel in your profession to small Alberta communities?

Dieticians/Nutritionists

Emphasize challenge/excitement of rural areas (3)
Main problem is retaining singles (3)
Increase salary (2)
Increase staff to prevent overwork
Need support from administration
Need well-trained managers to provide direction

Dietary Technicians

Need better teamwork
Chances of keeping single people are low
People have to enjoy living in small centres
It's a challenge